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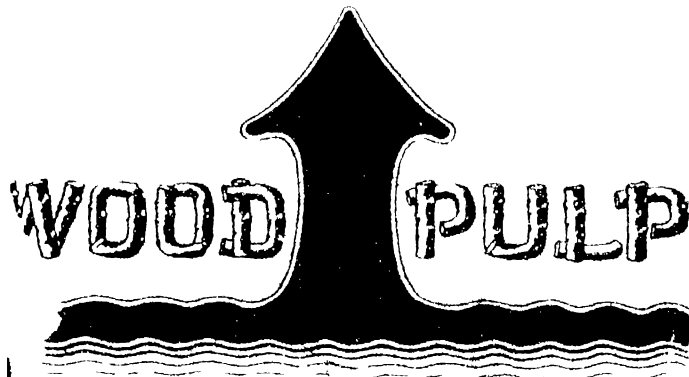
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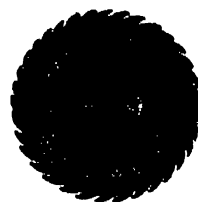
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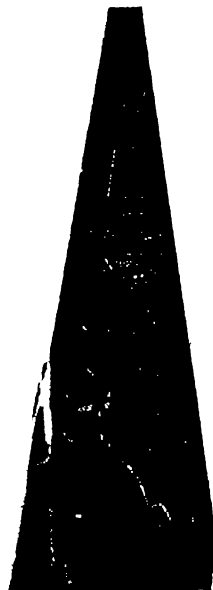
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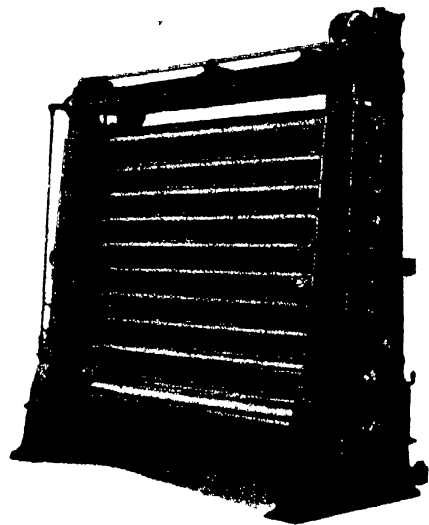
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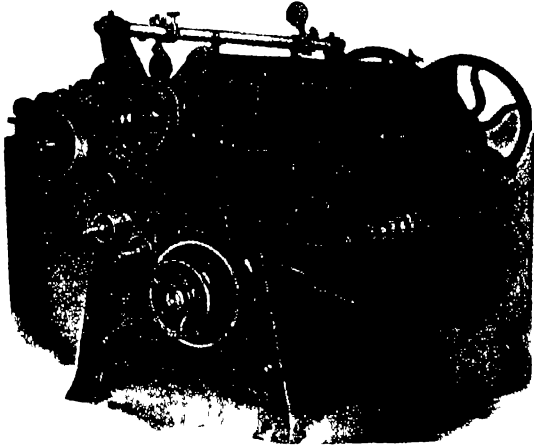
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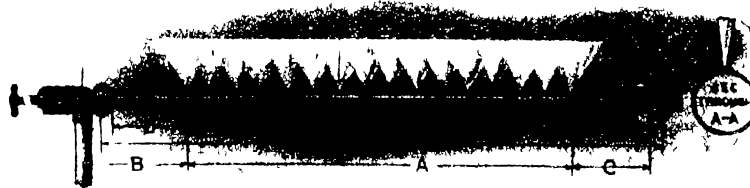
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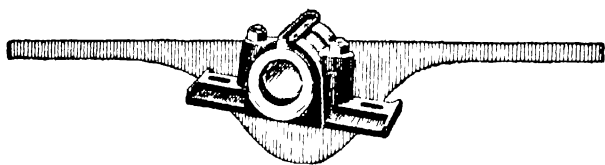
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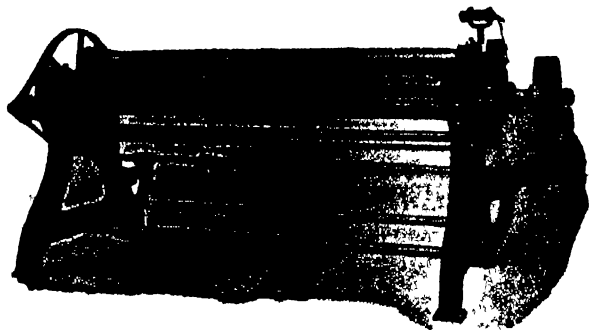
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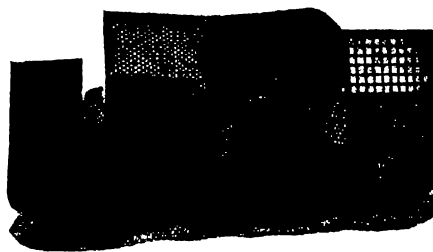
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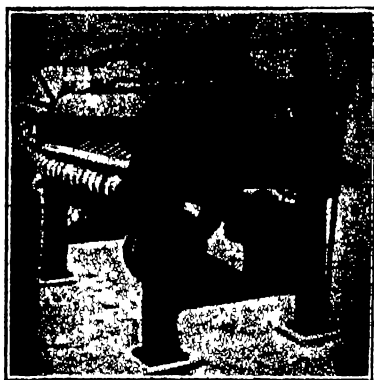
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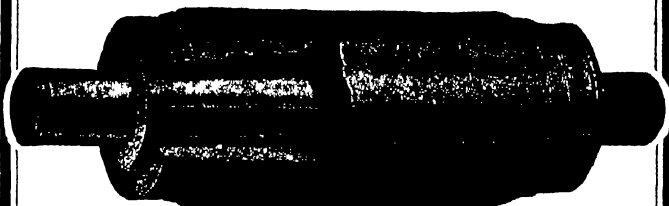
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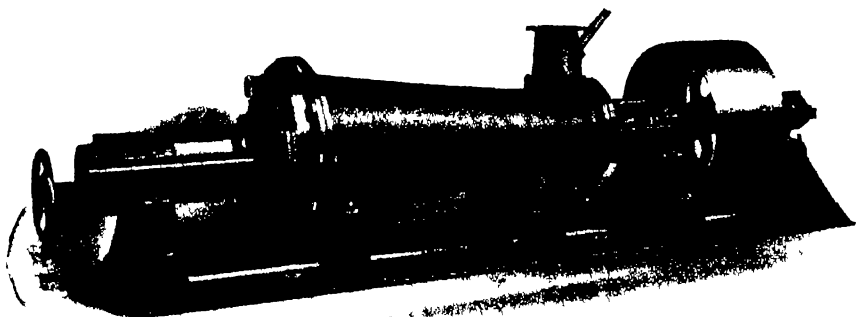
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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

FIFTY-FIRST YEAR

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STATIONERY AND ALLIED TRADES (Annual)

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Vol LXXVI No 2

NEW YORK AND CHICAGO

Thursday January 11, 1923

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PRODUCTION OF ALL PAPER FOR MONTH OF NOVEMBER

According to Statistics Just Issued by the Federal Trade Commission There Was on Hand at the Domestic Mills at the End of the Month Four Days' Average Output of News Print, Thirteen Days' Average Output of Book Paper, Nine Days' Average Output of Paper Board, Nineteen Days' Average Output of Wrapping Paper, and Seven Days' Average Output of Bag Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 10, 1923—Following the tabulation of production, shipments, and stocks regularly carried in the statistical summary by the Federal Trade Commission, this month's issue carries a special tabulation for identical mills, reporting to the Commission for October and November, 1920, 1921, and 1922, in news print, book paper and paper board.

The attached tabulation is a summary of production, shipments, and stocks of paper mills in the United States, as reported to the Federal Trade Commission, for the month of November, 1922. This summary is compared with the month of November, 1918, to 1921 inclusive.

The average production for all grades, except boxboard, is based upon the production for the years 1917 to 1921, inclusive, and the average stocks are based upon the stocks carried for the years 1918 to 1921 inclusive.

Figures for boxboard prior to March 1920, were included in paper board.

The average production and stocks for boxboard are based upon the figures tabulated during the period March 1920, to December 31, 1921.

The production has been classified for convenience into 12 grades, according to the grades of paper manufactured by the reporting mills.

Some mills making several grades appear in more than one group which causes duplication in the body of the tonnage tables in the number of mills.

For each grade the number of mills includes all mills commonly operating on that grade, regardless of whether they produced any tonnage of that particular grade during the month. In other words, it includes all mills reporting either production or merely stocks or shipments of that grade.

The stocks of paper carried by different mills depend not only upon the condition of the market but also upon the kind of paper made trade customs, etc.

Tonnage Summary

Production shipments and stocks of paper, by Grades, for the month of November, 1922 compared with November, 1921, 1920, 1919 and 1918, together with average production and stocks

Grade	Num-ber of mills	Stocks on hand first of month Net tons	Produc-tion Net tons	Ship-ments Net tons	Stocks on hand end of month Net tons
News Print (Standard and Special Grades of News)					
November 1922	75*	19,745	127,983	128,077	19,651
November 1921	86	23,015	104,604	104,492	23,127
November 1920	83	22,596	122,993	125,323	20,766
November 1919	81	16,100	116,603	117,367	15,136
November 1918	61	20,732	101,403	101,838	20,297
Average			110,600		25,307
Standard News (Included in News Print)					
November 1922	62*	15,468	117,439	117,537	15,470
November 1921	67	18,427	97,571	96,853	18,895
November 1920	67	19,651	111,313	114,365	16,599
November 1919	56	12,646	101,264	102,120	11,799
November 1918	50	16,731	86,371	86,406	16,696
Average			99,700		20,900

Grade	Num-ber of mills	Stocks on hand first of month Net tons	Produc-tion Net tons	Ship-ments Net tons	Stocks on hand end of month Net tons
Book (M. F. S. S. C. and Coat d)					
November 1922	92*	38,458	93,065	94,783	36,770
November 1921	87	32,343	73,544	68,827	37,060
November 1920	94	20,826	89,564	85,237	24,563
November 1919	96	26,828	84,085	83,630	27,293
November 1918	87	29,753	65,374	65,634	29,493
Average			73,325		30,303
Paper Board—Total (Straw, Fiber, Leather, Chip, Box, Etc.)					
November 1922	221*	52,968	198,947	196,051	55,864
November 1921	223	57,169	172,582	169,971	59,780
November 1920	252	42,222	133,818	127,072	28,969
November 1919	254	48,417	182,940	188,273	43,084
November 1918	227	41,756	148,671	148,922	41,305
Average			157,850		49,989
Boxboard (Included in Paper Board)					
November 1922	131*	23,623	146,984	144,387	26,220
November 1921	126	29,805	127,249	125,089	31,965
November 1920	148	18,753	91,092	86,138	23,707
Average			111,425		26,048
Wrapping (Kraft Manila Fiber Etc.)					
November 1922	147*	48,661	77,300	80,422	45,539
November 1921	130	52,378	65,405	68,078	56,205
November 1920	144	20,700	65,920	61,034	25,586
November 1919	164	39,596	63,954	70,434	32,556
November 1918	160	34,595	59,572	59,091	35,166
Average			59,150		43,482
Bag (All kinds)					
November 1922	42*	3,551	19,805	19,826	3,530
November 1921	38	3,737	19,161	19,148	3,750
November 1920	40	2,622	13,152	12,729	2,785
November 1919	45	2,765	17,047	17,390	2,432
November 1918	10	3,930	14,150	14,138	3,950
Average			13,275		3,362
Emp. (Wrapping Bands, Ledgers Etc.)					
November 1922	93*	36,490	31,666	31,276	36,880
November 1921	102	33,557	24,609	25,177	31,389
November 1920	109	24,368	31,208	29,991	30,185
November 1919	117	33,017	32,468	32,134	31,151
November 1918	115	30,425	30,192	27,283	31,464
Average			26,675		33,192
Tissue (Tissue, Crepe, Tissue Wrappers Etc.)					
November 1922	91*	7,445	17,984	17,391	7,339
November 1921	86	6,570	15,169	15,928	5,811
November 1920	97	6,406	9,651	8,344	8,115
November 1919	60	6,469	14,521	14,776	6,217
November 1918	87	5,201	11,472	11,472	5,578
Average			12,175		6,737
Finishing (No. 2 Think, O. H. H. Etc.)					
November 1922	21*	3,461	11,453	11,890	3,024
November 1921	31	9,420	7,505	8,078	8,856
November 1920	24	1,809	9,698	8,963	2,544
November 1919	26	3,599	8,222	9,841	1,980
November 1918	19	2,524	5,688	5,976	2,236
Average			6,950		4,693
Fits and Building (Roofing, Sheathing Etc.)					
November 1922	48*	7,914	36,948	36,673	8,189
November 1921	45	6,513	29,759	29,533	6,739
November 1920	50	13,461	16,961	16,306	14,116
November 1919	51	5,956	28,416	28,827	5,545
November 1918	56	8,514	19,698	20,818	7,394
Average			25,025		8,853
Other Grades (Specialties Not Otherwise Classified)					
November 1922	106*	21,137	27,093	26,915	21,315
November 1921	87	19,546	23,048	22,374	20,210
November 1920	95	14,230	25,177	23,692	15,715
November 1919	90	15,491	21,785	20,905	16,371
November 1918	73	10,371	21,716	21,283	10,804
Average			19,650		14,466
Total—All Grades					
November 1922		239,833	641,544	643,286	238,101
November 1921		244,657	535,876	531,606	248,927
November 1920		173,980	518,144	499,281	193,843
November 1919		198,248	569,484	583,767	183,965
November 1918		187,809	478,066	475,988	189,887
Average			504,175		220,386

*This is the correct number of mills reporting production, shipments or stocks for November, 1922. By clerical error the October bulletin and those for several previous months, slightly exaggerated the number. The count of mills for previous months will be corrected in a later issue.

The following stocks were reported on hand at terminal and delivery points on November 30, in addition to the mill stocks shown in the tabulation: Book paper, 2,510 tons, paper board, 180 tons; fine, 23 tons, and "other grades," 274 tons, totaling 2,917 tons.

Stocks of paper board, boxboard, fine, felts and building, and "other grades" increased during the month; stocks of all remaining grades decreased

Stocks of all grades reported by manufacturers at the end of November amounted to 241,018 tons, including the stocks at terminal and delivery points. In addition to these stocks, jobbers and publishers reported news print stocks and tonnage in transit aggregating 233,791 tons

Ratio of Stocks to Average Production

Comparing the stocks on hand at the domestic mills on November 30 with their average daily production, based upon the combined production for 1918 to 1921, inclusive, the figures show that

News print paper mill stocks equal four days' average output
Book paper mill stocks equal 13 days' average output
Paper board mill stocks equal nine days' average output
Wrapping paper mill stocks equal 19 days' average output
Bag paper mill stocks equal seven days' average output
Fine paper mill stocks equal 35 days' average output
Tissue paper mill stocks equal 15 days' average output
Hanging paper mill stocks equal 11 days' average output
Felts and building paper mill stocks equal eight days' average output

Miscellaneous paper mill stocks equal 27 days' average output.

Total paper mill stocks of all grades equal 11 days' average output

Tonnage of Identical Mills

The following tabulation is a special summary of production, shipments, and stocks of news print paper, book paper, and paper-board for identical mills, for the months of October and November, 1920, 1921, and 1922

(Net Tons, 2,000 Pounds)

Grade	Number of identical mills	Stock first of month	Production	Shipments	Stock end of month
News Print					
October 1922	71	18,201	127,899	127,014	19,066
November 1922	71	19,066	125,689	125,800	18,943
October 1921	71	29,421	99,368	106,802	21,987
November 1921	71	21,987	102,009	101,311	22,885
October 1920	71	21,925	119,958	122,151	21,730
November 1920	71	21,730	119,290	121,749	19,271

Book					
October, 1922	79	29,571	81,574	80,644	30,981
November, 1922	79	30,501	82,411	83,642	29,276
October, 1921	79	32,993	68,453	70,999	30,443
November, 1921	79	30,445	68,959	63,983	35,421
October 1920	79	19,024	86,103	86,516	18,611
November 1920	79	18,611	82,557	79,071	22,097
Paper Board					
October, 1922	174	50,555	178,165	181,762	46,958
November, 1922	174	46,958	177,028	175,000	48,986
October 1921	174	49,820	158,865	159,616	49,069
November 1921	174	49,069	148,664	144,228	53,403
October 1920	174	31,267	154,452	151,552	34,207
November 1920	171	34,207	107,871	102,138	39,940

Special Note.—The import and export figures (which have heretofore been carried in this report) as shown by the records of the Department of Commerce are omitted from this issue of the Statistical Summary for the reason that the import figures for October 1922, are not yet available. The import and export figures for October will appear in the December, 1922, issue of the summary

Loss of Production

The idle machine time reported to the Commission for November, 1922 is shown by grades in the attached tabulation

The number of machines includes only those machines for which idle time was reported during the month. It does not include the machines in 33 mills that were closed down completely for the month

The total number of machines may include duplications because the reports may count the same machine twice, if idle for different reasons during different parts of the month, or if idle part of the time on one grade and part of the time on another

The reasons tabulated for lost time are "lack of orders" and "repair." "Other reasons" include "lack of material," "lack of water power" etc

The time lost in November, 1921, is given by grades and reasons, for purposes of comparison

McEvoy Paper Co Sold

[FROM OUR REGULAR CORRESPONDENT]

SYRACUSE, N. Y., January 8, 1923.—The McEvoy Paper Company of Amboy was sold to the Third National Bank of Syracuse for \$8050 at a public auction conducted by Harry H. Farmer, referee at the Court House December 28

By the purchase the bank acquires title to the mill, water power and the site upon which the plant is situated

Loss of Production

MONTH OF NOVEMBER, 1922 (WITH NOVEMBER 1921, FOR COMPARISON)

	Lack of Orders		Repairs		Other Reasons		Total	
	1922	1921	1922	1921	1922	1921	1922	1921
News Print								
Number of machines	0	11	3	15	13	17	16	43
Total hours idle	0	1,360	230	1,027	1,149	1,737	1,379	4,124
Book Paper								
Number of machines	23	116	5	47	17	62	45	220
Total hours idle	6,171	15,555	135	2,859	2,382	3,232	8,688	21,646
Paper Board								
Number of machines	77	152	65	46	63	74	205	272
Total hours idle	14,568	31,123	8,915	3,059	14,158	12,821	37,641	47,003
Wrapping								
Number of machines	7	40	23	29	11	41	41	112
Total hours idle	486	10,324	1,255	1,962	1,999	3,800	5,640	16,086
Bag								
Number of machines	2	4	6	7	8	8	16	19
Total hours idle	96	830	566	189	1,077	479	1,739	1,498
Fine								
Number of machines	55	88	51	63	14	58	120	209
Total hours idle	6,867	14,762	6,024	7,394	697	3,780	13,588	25,936
Tissue								
Number of machines	23	12	53	21	14	30	90	63
Total hours idle	1,349	664	2,893	2,271	2,780	1,228	7,022	6,163
Hanging								
Number of machines	0	5	4	1	2	1	6	9
Total hours idle	0	680	733	129	88	397	821	1,206
Felts and Building								
Number of machines	19	30	14	15	19	19	52	54
Total hours idle	2,583	4,165	393	783	2,762	1,243	5,738	6,191
Other Grades								
Number of machines	23	30	22	26	10	23	55	79
Total hours idle	2,631	4,143	3,098	1,914	1,627	3,040	7,356	9,097
Total number of machines	299	478	246	265	171	337	646	1,080
Total hours idle	34,751	83,606	26,242	21,587	28,619	33,757	89,612	138,958

EIBEL PROCESS CO BRINGS SUIT IN U. S. SUPREME COURT

Action Is Brought Against Minnesota & Ontario Paper Co of International Falls, Minn., for Infringement of the Eibel Patents on Wires for Paper Making Machines—Main Contention Is On the Words "Substantial" and "Highly" Mentioned in Original Eibel Patent—Defense Contends That Case Differs From Remington-Martin Case Decided by Judge Mayer in New York in 1916

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C. January 10, 1923.—An argument was held before the United States Supreme Court on Monday in docket No. 178, which is the case of the Eibel Process Company against the Minnesota and Ontario Paper Company and which is of peculiar interest to paper manufacturers because of the importance of the Eibel process on paper machines.

Former Decisions

The Eibel Company was represented by Frederick P. Fish while the Minnesota and Ontario was represented by Amasa C. Paul. The arguments necessarily were extremely technical while the legal points made were based on a decision handed down in England regarding the validity of the Eibel patent in that country where it was held invalid, and the decision handed down in 1916 by Judge Mayer in New York in the case of the Eibel Company against the Remington-Martin Company.

Argument For Eibel Co

Mr. Fish in his argument on behalf of the Eibel Company told the court that the main contention in the case are the words "substantial" and "high" mentioned in the original patent inasmuch as some of the paper concerns who tilt their machines up at one end only have a tilt of from 5 to 6 inches while the Eibel process calls for a tilt of some 14 inches. As soon as the Eibel process became known it so greatly increased the speed of the paper machines Mr. Fish told the court that the 'process spread like wildfire' through the paper industry. He called particular attention to the fact that the Eibel process is not a drainage adjustment but is for the speeding up of the production of the machines. The process Mr. Fish said increases the speed of the machine anywhere from 15 per cent to 40 per cent. He contended in speaking of the words 'substantial' and 'high' that these words as set forth in the patent are not indefinite. He said that the pitch of the machine varies in height in different cases and therefore Eibel in his patent could not state any certain number of inches at which a machine would have to be pitched to obtain the result claimed for the Eibel process. Mr. Fish told the court that at the present time about 3,400 tons of news print paper are being turned out per day by machines using the Eibel process.

Argument by Mr. Paul

Mr. Paul in his argument told the court of the Fourdrinier paper making machines which are now in use by the Minnesota and Ontario Company. He admitted that these machines have been blocked up on one end and that this has been done since the Eibel patent was issued. He called the court's particular attention to the fact that the English courts have declared the patent invalid. This decision was rendered he said, in 1911. Mr. Paul contended that the record in this case is different from the case heard in New York in which the Eibel Company was upheld by the court. He called particular attention to the record of the paper machines run at Lisbon Falls stating that those machines, with a pitch of 1½ inches are running at a speed of 545 feet per minute and this is being done by an adjustment device and by blocks.

In concluding his argument before the court Mr. Paul said 'It is submitted

'(1) That the claims of the patent in suit require, by their plain terms and the terms of the specification, that the so-called 'substantial' pitch given to the making wire be such that gravity alone, due to pitch, brings about speed equality between the stock and the wire and that this was the basis of the decision of the Circuit Court of Appeals for the Second Circuit sustaining the patent in the Remington-Martin case

"(2) Concededly, if this is the correct interpretation of these claims, defendant's machines do not infringe

'(3) Unless the word 'substantial' and other like expressions in the specification and claims of the patent in suit, require a sufficient pitch to be given to the making wire to bring about speed equality between stock and wire by gravity due to pitch alone, these claims are invalid under the statute for the reasons hereinbefore pointed out

"(4) If the claims of the patent in suit are construed to cover defendant's machines, in which speed equality between stock and wire is brought about mainly by the head in the flow box and the drag of the making wire and only to a small extent by gravity due to the pitch of the wire said claims are invalid in view of the patents and machines of the prior art in which the same three factors were used in the same way, and in substantially the same proportions, to bring about this result"

Uncas Paper Board Co Prepares to Start

[FROM OUR REGULAR CORRESPONDENT]

NORWICH, Conn., January 4, 1923.—The Uncas Paper Board Company, which has been incorporated to operate the Thamesville paper mill formerly the Ironsides Board Co. which was bought at auction a month ago by James F. Smith of Baltimore, elected officers at a meeting held here Wednesday.

The following were elected: president James F. Smith of Baltimore; vice-president, Alvah Miller of New York; treasurer, Arthur C. Hastings of New York; secretary Frank W. Browning of Kitchaug. These with Joseph H. Eilers, superintendent of the mill comprise the directors.

The company is capitalized at \$1,500,000.

Following his purchase of the mill Mr. Smith had work started actively at once in overhauling the machinery in preparation for starting the large paper machine as soon as possible. This work has been pushed actively by a gang of about 40 millwrights and machinists and the mill has already begun to get in its paper stock. From 35 to 40 carloads have been ordered of which 15 have arrived.

It is expected that the large paper machine may be started by a week from Monday or at least by the Monday following that, and the second and third machines will follow in the next two or three weeks thereafter, which will bring the mill to a capacity production and give employment to about 200 men. Except for about 25 men who handle the loading and unloading of paper, all the employees are in the skilled class and receive correspondingly high wages.

The contracts for fuel oil have been closed and a supply will be received at once enough to carry the mill over the three cold months. There are three fuel oil tanks with capacities respectively of 12,000, 6,000 and 3,000 barrels.

President Smith, who was here Wednesday, stated that there was a bright outlook for good business for at least two years to come. Prices on all box board had advanced \$5 a ton on January 2.

Superintendent Joseph H. Eilers moved here from New Haven Wednesday with his family and is occupying the superintendent's house on West Thames street, which is part of the mill property.

A Mr. Chalmers, who was formerly master mechanic a few years ago has been engaged for the same position again and the office head has been engaged. He is a Boston man.

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GOOD PROGRESS IN PLANT OF VALLEY PAPER MILLS CO.

Foundation for Main Building Nearly Completed and Officers of the Company State the Plant Will Be Ready for Operation Early in the Fall—Plant Will Be Equipped With Two Machines With a Capacity of Fifty Tons Per Day—Light Weight Book Paper Will Be Made—Peshtigo Paper Co. and Fort William Paper Co. to Sell Bonds—Fort Howard Paper Co. Improvements

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 9, 1923.—Construction work on the new paper mill of the Valley Paper Mills Company at Neenah is progressing favorably. The foundation for the main building is about two-thirds completed and brick for the walls has been ordered. It is not probable, however, that bricklaying will be started before next spring as it is planned to permit the concrete foundations to dry out thoroughly.

The new plant is being erected near the plant of the Lakeview Paper Company and the site was selected because of an abundance of exceptionally pure spring water.

The main building will be 622 feet long and 175 feet wide on one end. The other end of the building will be considerably narrower. It will be of brick and steel construction, fireproof throughout.

Plans for manufacturing have been changed in the last few months. It was originally intended to make plissine and grease-proof papers and Emil Pohl said to be an expert in the manufacture of that kind of paper was connected with the company and his processes were to be used. Differences with Mr. Pohl arose, however, and he is no longer with the company. It was announced that light weight book papers are to be manufactured. The mill will be equipped with two machines and will have a capacity of fifty tons a day.

William C. Nash, formerly general superintendent of the old Lakeside Paper Company, is general superintendent of the new concern and designed the building and equipment. Mr. Nash also has been connected with the Gilbert Paper Company and the Fox River Paper Company.

Officers of the company say they are confident that the plant will be ready for operation early in the fall. The paper machines have not been ordered, it was said.

Peshtigo Paper Co. to Issue Bonds

The Wisconsin Railroad Commission has issued a permit to the Peshtigo Paper Company to dispose of \$600,000 worth of ten-year gold debenture bonds, paying interest at the rate of 8 per cent and also to issue 50,000 shares of common stock of no par value.

The commission also has authorized the sale in this state of \$200,000 serial gold bonds of the Fort William Paper Company of Fort William, Ontario, Canada. These bonds are listed as Class A and are secured by a first mortgage.

Installation of a sprinkler system in the two mills of the Peshtigo Paper Company at Peshtigo has been started. The apparatus is being put up by a Des Moines concern and will require several months to complete the work.

Reductions in Freight Rates

Important reductions in freight rates on paper products from the Chicago territory, which includes Wisconsin to Pacific coast states and other places in the west, effective about January 15, have been announced. The reductions are sufficient to make it possible for Midwest paper manufacturers to place their products in the western market at a price which will compete with western made goods.

The announcement stated that reductions have been made for

two groups. The southern group includes California, Nevada, Arizona and New Mexico.

The reductions will have the effect of changing of rates on straight car loads of toilet paper from \$1.42 to \$1.19 per hundred-weight to the Southern group, and from \$1.42 to \$1.25 to the Northern group on carload minimums of 40,000 pounds. The rate on carload minimums of 26,000 pounds on mixed napkins, toilet paper and paper towels has been cut from \$1.87½ per hundred-weight to \$1.26 in the Southern group and to \$1.35 in the Northern group. Paper tablets in carload lots are reduced from \$1.58 to \$1.25 in both districts.

The reductions on other kinds of paper products are just as material. Heretofore, paper mill men say, it was almost as cheap to ship their products by rail to the East coast and then by way of Panama Canal to San Francisco, as to ship overland by rail to the west coast.

Fort Howard Paper Co. Addition Nearly Ready

The addition to the Fort Howard Paper Company mill at Green Bay is almost completed, only a few minor details remaining to be finished. The company will be occupying the new quarters in the very near future. The addition will give the company much additional space, for want of which it has been handicapped for some time.

Paper mill men here have been advised that the new mill of the New Westminster Paper Company Ltd. at New Westminster, B. C., Canada, has started operations and has orders on its books sufficient to keep it operating for several months. The company was promoted by Henry M. Ford and M. T. Herb of Peshtigo and E. J. Herb of Appleton. It manufactures tissues and other light-weight papers.

Spruce Falls Co. Plant at Kapuskasing Burned

[FROM OUR REGULAR CORRESPONDENT]

KAPUSKASING, Ont., January 7, 1923.—Two men lost their lives here today in a fierce battle with fire that destroyed important parts of the new \$4,000,000 paper mills of the Spruce Falls Company.

The two men who paid with their lives met death 150 feet in the air. They had taken up their position on top of the chip bins which are located on the top of the main building. When the flames suddenly sprung through the highest windows they were engulfed in a sea of flames and smoke. The remains showed that they had died of asphyxiation. The dead men are R. E. Doherty, Superintendent of Power for the Spruce Falls Company, and William Shingo, expert acid maker for the same company. Mr. Doherty was from Ashland, Wis., and Mr. Shingo came from Oshkosh, Wis.

Ernest Joannisse is the hero of the fight. Disregarding the dense smoke and the leaping flames, he entered the burning building and brought out J. Stevens, who was overcome with fumes, and who was unable to extricate himself from the flames which burned him severely. It is believed tonight that he will recover.

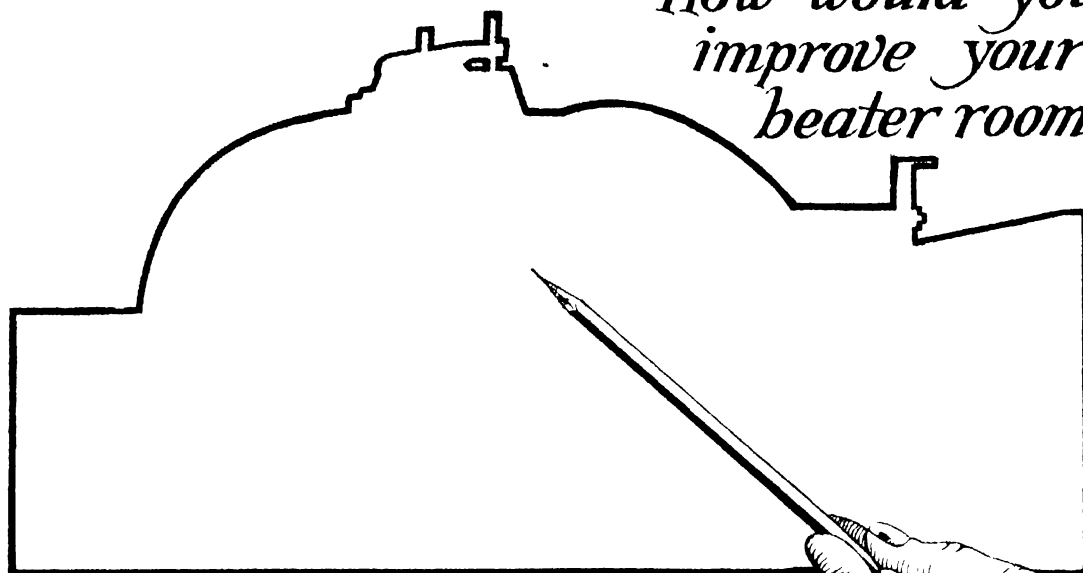
The \$4,000,000 new mill had started operations only a month ago. The fire is thought to have broken out through spontaneous combustion in the chip bins, which are located in the digester building. Up until 3 o'clock Sunday afternoon the fire was confined to the chip bins, but later the flames burst through the roof.

Only the efficient waterworks system and the persistent efforts of the men and women of Kapuskasing saved the other buildings of the plant.

The bodies of the victims will be shipped tomorrow to their homes in Wisconsin, while the operations of the Spruce Falls Company will partly cease for a short time.

The output of the Spruce Falls Company, of which S. J. Sensenbrenner, of Neenah, Wis., is president, S. A. Mundy, vice president and J. C. Kimberly, secretary, is 120 tons of sulphite pulp per day.

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KIECKHEFER CONTAINER CO TO START PLANT AT DELAIR

New Plant Includes All the Modern Improvements and Is a Model of Convenience in Every Respect—Represents an Expenditure of \$1,500,000—Will Make Container Liner and Box Board Which Will Be Used in Its Own Factory for the Manufacture of Fiber Shipping Cases—Will Have Seven-Cylinder, 115-Inch Board Machine Made by Beloit Iron Works

[FROM OUR REGULAR CORRESPONDENT]

DELAIR, N. J., January 8, 1923.—The plant of the Kieckhefer Container Company costing \$1,500,000 and consisting of a container liner and box board mill and an immense fiber shipping case factory is virtually completed and will be placed in operation shortly.

The new plant represents the latest word in construction from the points of view of economical handling of material in and out, expeditious manufacture and safety and well being of its employees. It is located on a rather historic spot on the Delaware River, the twenty acres in the plant taking in the old Isaac Fish Homestead, the original building with its date stone of 1762 still standing and said to be the second oldest building thus marked in New Jersey. The Kieckhefer Company has enough appreciation of sentiment to impel it to plan for the retention of this old structure as an office building. But just a few feet away are the mammoth modern buildings over which there looms a gigantic white concrete smokestack two hundred and twenty-five feet high and visible from all the country round in a ten-mile radius.

Excellent Freight Facilities and Water Supply

The plant is admirably located with regards to freight facilities and water supply.

The layout of buildings which constitutes the plant extend in a parallelogram with its longest side along the Delaware River. The box plant has the Delaware River frontage. The water being only a few feet away at the base of the knoll on which the plant is situated. The box manufacturing plant has a breadth of one hundred and eighty feet and a length of four hundred and twenty feet. The beater room runs at right angles to the box plant and is separated from it by the yard way into which the Pennsylvania Railroad track will run. It is ninety by ninety-five feet in size. Immediately in the rear of the beater room on the western side is the engine room, the boiler room and the coal pits, while on the eastern side is situated the machine and Jordan building. The machine room is forty-two by three hundred and thirty-five feet in size. At the far end and running across the width of these buildings is a warehouse one hundred by four hundred and five feet now completed. A duplicate is to be erected in the future. Loading platforms extend along the entire length of the box plant.

Beloit Iron Works Paper Machine

The new paper machine just completed was built by the Beloit Iron Works. It will have a production of one hundred tons of liner paper or one hundred and twenty-five tons of chipboard with the widest cut one hundred and fifteen inches. It will consist of seven cylinders, one hundred and three dryers and three calender stocks. In the beater room are ten Noble & Wood beaters. The Jordan room houses four Noble & Wood Mammoth Jr., Jordans.

The boilers in the boiler room consist of three six-hundred horsepower Badenhausen units, operating under two hundred pounds' pressure with steam superheated ninety degrees and will have an overload capacity of two hundred and fifty per cent of the normal rating. The boilers will be equipped with Coxe Stokers using anthracite coal. In the engine room there has been installed a

Harrisburg Uniflow Variable Speed Twin cylinder engine, but all the units in the plant save the variable speed end of the paper making machine will be equipped with individual motors. The electrical equipment consists of two Allis Chalmers alternating current generators, each with a capacity of nine-hundred KVA alternating current, the engine drive being connected directly to the generators together with two Filer & Stowell Company engines, one a 1090 H. P. Corliss cross compound condensing and the other a Filer-Stowell 1000 H. P. semi-uniflow.

Buildings of Brick and Steel Construction

All the buildings save the beater room are of one-story construction, the latter however being two stories in height. All are built of steel brick and concrete with an abundance of steel window sash permitting a flood of daylight and of ventilation to all the departments and are most thoroughly and modernly appointed with all conveniences for employees.

With the completion of this mammoth new structure at Delair there will be dispensed with the original Kieckhefer plant to Camden located at Thorn and Copewood streets, South Camden, which consisted of a box factory only and which was but half the size of the box factory department of the new manufacturing home. Virtually all the machinery equipment is like the building itself entirely new.

The Delair or Camden organization of the Kieckhefer Container Company is a branch of the parent concern in the West. This branch was established but three years ago and has had a continuous and remarkable growth since then. It produces fiber shipping cases exclusively in all sizes and used for the shipping of many articles of food including canned goods, also shoes, bedding and in infinite variety of other articles. The construction of the Delair plant was by the Irwin & Leighton Company, builders for the Government of Camp Dix and of the colossal Sears Roebuck plant on the Roosevelt Boulevard in Philadelphia.

Management of New Plant

The Camden or Delair branch is under the general management of R. F. Bell, secretary of the Kieckhefer Container Company. Herbert Kieckhefer is superintendent of the box manufacturing department. I. J. Meunier is superintendent of the paper mill. G. A. Vollmer is sales manager and E. J. Ruster is traffic manager.

Thaw and Rains Aid Black River District

WATERTOWN, N. Y., January 8, 1923.—A decided relief to industrial plants in this section was felt Tuesday when the results of the thaw and rain of Sunday and Monday began to be felt in the flow of Black river. E. S. Cullings, secretary of the Board of the Black River Regulating District, said that there had been a raise in the water level to twice the conditions of the previous week, which meant 2,500 second feet greater flowage.

The result meant sufficient water for the paper mills and other plants along the lower portion of the river which had been suffering greatly and faced a crisis without it. Mr. Cullings said that the thaw and rain gave no help to the upper reaches of the river and its tributaries. The rain simply soaked into the snow in the woods and did not help river flow, but the raise in the flow in the lower portion of the river was due to rain and melting snow from the Tug Hill section.

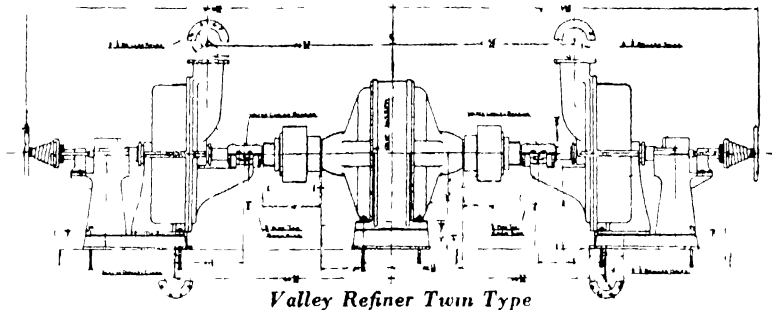
Unless further thaw ensues soon the present relief will have passed away and bad conditions returned.

Northern Pulpwood Co. Organized

[FROM OUR REGULAR CORRESPONDENT]

AUGUSTA, Me., January 8, 1923.—The Northern Pulpwood Company has been organized at Bangor to buy, sell and deal in timberlands and pulpwood, capital stock authorized \$200,000, all common, paid in \$300. The officers, who are also the directors, are Michael J. Brennan of Bangor, president, Regina A. Brann, treasurer, and James B. Mountaine, all of Bangor.

Turning Grinder Rejects Into Dollars



That is the function of the Valley Refiner. The machine is built in Single and Twin types with capacities of $3\frac{1}{2}$ and 7 tons of groundwood pulp daily respectively. Not only does the Valley Refiner eliminate waste, but it turns the waste into a profitable product. The savings effected will pay for the machine in ninety days.

We will gladly furnish full details upon request.

VALLEY IRON WORKS COMPANY

Plant: APPLETON, WIS

New York Office: 350 Madison Avenue

BUSINESS IN PHILADELPHIA STARTS WELL FOR NEW YEAR

While no Signs of a Boom are Apparent Paper Merchants Believe That Indications Certainly Point to a Considerable and Healthful Expansion in Business—Decided Increase in Inquiries from the Mills for Paper Stock Is Reported—Certificate Bond Distributors Plan Big Educational Meeting at Hotel Adelphia—New Officers of Pinco Papers, Inc

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA January 9, 1923.—Enough of the new year's actual business now has been done to justify the faith of those who in the closing days of the old year expressed their belief that there was ahead an era of good times. In the new year's business there was nothing of a suddenly appearing boom, but there was abundant evidence in the character of the buying to warrant conviction that it was sound wholesome trading and that it had lasting qualities. There did not appear as was anticipated a general upward revision of prices, although there were a few minor changes in the fine paper division and one grade of No. 1 kraft declined a quarter of a cent a pound. However, the jobbers were of opinion that this particular grade had previously been quoted too high and that the slight reduction now brings it on an equality in price with competing brands of like character. Thus far there has been no echo in prices of the scarcity of ground wood experienced by the mills and attributed solely to the scarcity of water. Visiting mill representatives have informed the trade that the ground wood shortage is becoming acute. In organizations where there are a chain of mills it has been found necessary to transport ground wood to mills where previously it was produced but which are located in the draught zone and which therefore were unable to produce this raw material, necessitating shipment to them and thereby of course, an increase in the cost of producing wood paper.

Salesmen from the local distributors calling on the Philadelphia and nearby printing and publishing trades reported that the stocks on hand in the printing industry was negligible and that any increase in business would result in an immediate placing of orders for paper. While the printers experienced a little lull, immediately after the rush of the holiday trade, the turn of the year brought with it quite a few orders and these constantly are growing. It is the opinion of this class of consumers that there is certainly good and probably excellent business ahead. The manufacturing stationery trade is also buying quite satisfactorily and it also is confident of a continuance of good times.

The development of the week in the paper stock trade was a very decided increase in mill inquiries generally and in the buying of common papers and particularly the comparatively new grade of container manilas by the boxboard producers.

Box Board Prices Advance

During the week boxboard prices for all grades advanced from three to five dollars a ton and the paper stock dealers were able to secure from the mill an increase of about two dollars a ton on mixed and common papers and three dollars and slightly more on the better grades and on container manilas. The paper box trade apparently had good enough business for the holidays to clean up all the stock of boards and it is now buying quite liberally for the business actually in hand and that which gives positive evidence of an early appearance. In general therefore, 1923 has started off most satisfactorily and most encouragingly and in a condition of very decided betterment over the corresponding week of a year ago.

To Hold Educational Meeting

Very early in the new year there will be held a trade function

which is expected to draw to it representatives of perhaps as many as 500 converters of paper, principally printers and engravers. It will be the educational and social meeting arranged by the Crocker-McElwain Company of Holyoke in a campaign to educate the trade to the fullest possibilities of usefulness and adaptability of this firm's widely known Certificate Bond. The gathering will be held at the Hotel Adelphia and will be under the auspices of the two Philadelphia distributors of Certificate Bond and of the new line of Certificate note paper, the Charles Beck Company and the Thomas W. Price Company. While all the details are still in the making, it is expected to have present two representatives of the Crocker-McElwain Company to make addresses. Charles Barr of the manufacturing company's advertising service will make an address touching on the method of production and the publicity campaign which are conducted by the organization, while William Roch is expected to give a practical demonstration of the capability of Certificate Bond, particularly in halftone work. While the affair is informal there will be provided quite an elaborate banquet preceding the business meeting. It has been set for January 15 at six-thirty o'clock.

Pinco Papers, Inc., Chose Officers

Acting under authority of its recently secured charter under the laws of New Jersey, Pinco Papers, Inc., has chosen officers and these are as follows: Thomas F. Pinder, president and treasurer, C. C. Orcut, vice-president and Henry Hoyt, secretary.

The plant of the Pinco Papers, Inc., is located in Camden, N. J., just across the river from Philadelphia and is the remodeled and expanded coating plant conducted for many years by the late E. G. Locke. The Locke interests were taken over by Thomas Pinder who for many years had charge of the coating department as superintendent of Dill & Collins, Philadelphia, and who has associated with him W. H. Wilkins, previously manager of the coated paper department of the D. L. Ward Company and subsequently with the Paper Service Company and who is intimately familiar with the paper box manufacturing trade. Since the plant was taken over, extensive additions have been made both to the building and to the machinery equipment and there shortly are to be added an additional number of reels.

General Trade Notes

A folder announcing the stocking by the Walter, Wilcox, Furlong Paper Company, 231 Chestnut street, of Tuscan cover papers, the first offering in Philadelphia is being mailed to the trade. This new line which has a very wide field of possibilities for catalogue booklet and brochure work will be carried in ten colors and white, these being granite, scarlet, turquoise green, gray, gold, seal brown, café india and dark blue in two weights 20 x 26—65 and 20 x 26—135 and in two sizes, both weights, 20 x 26 and 23 x 33. Brochure is printed on 20 x 26—65 turquoise.

President Lutz of the Invincible Paper Mills, New York, and general sales manager of the Ajax Paper Mills called on the trade during the week.

Now Drying Machine Corp of America, Inc

Drying Machine Corporation of America, Inc., with offices at 52 Vanderbilt avenue, New York, announces that it has succeeded the H. P. Coe Drying Machine Corporation, formerly located at 50 Church street, New York, in its business, the ownership of its patents and other assets, and, with ample capital, and additional and improved manufacturing facilities for perfect construction and prompt shipment of its mechanical dryers for veneers and thin lumber, and also for the drying of composition boards of all classes, including plaster, asbestos, insulation and binders, and pulp products of wet machines and presses.

H. P. Coe, the inventor of the original Multiple Deck Roller Drying Machine, with twenty years' experience in manufacturing drying machines of that type is president. The other officers will be announced later.

1st

PAPER INDUSTRIES EXPOSITION

Week Commencing
APRIL 9th -1923

**GRAND CENTRAL
PALACE
NEW YORK CITY**

Management
INTERNATIONAL EXPOSITION CO.

*Featuring the paper making industry
from forest to the finished product*

*For floor diagram
and complete infor-
mation about exhibit
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**PAPER
INDUSTRIES
EXPOSITION**

**Grand Central
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New York City**

PAPER MERCHANTS IN BOSTON OPTIMISTIC OVER OUTLOOK

Last Half of 1922 Showed Exceptional Improvement Over First Six Months of the Year and the Improvement Is Expected to Continue in 1923—Prices are Unchanged and Show a Tendency to Stiffen—Printers are Busy and are Sending in Numerous Orders for Paper to be Shipped Immediately—A. C. Hall, of John Carter & Co., Injured by Fall—General News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

Boston, Mass., January 8, 1923. Boston paper merchants are decidedly optimistic regarding the outlook for them during the new year. They also report that the last half of 1922 showed exceptional improvement over the first half of the year and that the volume of business for the last half of the year was up to the pre-war record. As one prominent merchant put it, 1923 will be a much better year because we are going after the business and we are going to get it.

According to many of the Hub paper merchants the hard to handle policy in buying has proved rather unsatisfactory for the customers because of the embargoes on the railroads and the many difficulties attendant to getting shipments through on a moment's notice. Many of the Hub merchants are complaining over the seeming impossibility to get goods through.

Prices on the Boston market do not show any weakening this week. On the other hand they show a tendency to stiffen up and it is not expected that there will be a break for some time to come. While it is expected that there will be a slight rise in the lower grades of both bonds and other grades of paper it is not expected that the rise will be at all large.

Printers Reported Busy

Printers in Greater Boston and other New England sections report that they are receiving orders for all of the work they can turn out and as a consequence the paper men are receiving orders for supplies to be shipped immediately. Present conditions are leading the printers and others to buy in supplies of paper ahead of time.

General News of the Trade

A. C. Hall, manager and treasurer of John Carter & Co., paper merchants on Atlantic avenue, fell a short time ago and was badly shaken up in addition to injuring his right shoulder. He fell over a loaded truck which had been left in the passageway in the stock room. He is slowly recovering and is able to be at the office practically every day.

John Carter & Co. have put in a new line of bond paper. Waterfalls Bond made in white and nine colors selling from 13½ cents to 16½ cents a pound by the ream. Waterfalls ruled goods and Waterfalls Pond envelopes are also carried by the Carter firm now at both warehouses, Boston and Providence, R. I. Cheaper prices on the new bond are quoted on case and ton lots.

Mr. White, sales manager for Crane & Co. was in Boston last week visiting the various firms carrying the Crane lines. A composite picture of all of the twenty-six mills of the American Writing Paper Company is shortly to be placed on the wall of the salesroom of John Carter & Co. C. S. Hall, manager of the envelope department of the Carter firm reports one of the most successful years in his experience and he is an old timer in the firm, having been connected with them for more than a quarter of a century.

William H. "Billie" Hilton of Worcester, one of the heads of the United States Envelope Company in that city, was in town this week visiting his many friends. He is retiring as monarch of the Worcester Althorn Grotto (A. I. & A. M.).

Max Frank, one of the older members of John Carter & Co. firm has recently been confined to his home recovering from an operation. He is able to be at his desk every day now for at least part of the day. He was confined to his home for nearly four weeks.

A. Storrs & Bement Company reports that the holiday season for the announcement department was an exceptionally good one and continued so right up to the first of the year. The firm is sending out this week calendar pads to its many friends and customers. These have proved very popular during the last two years. New customers are receiving the whole outfit while old customers are receiving refill pads and paper.

Wayagamack Co. Presents Good Report

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 8, 1923.—The annual report of the Wayagamack Pulp and Paper Company Limited for the year ending November 30, 1922, was issued this week. It affords another indication of the steady improvement that has occurred in the past year in the kraft paper industry. Just how quickly the industry has revived will be judged from the fact that it was possible for the company to keep all of its plants working to full capacity throughout the year and at the same time greatly widen the market for its products in outside countries. This will have a very stabilizing effect on the industry, as in addition to the large business done at home Canada it will mean that a very considerable portion of the total output will be finding its way all the time to many outside centres. As a result of the more favorable condition the Wayagamack Company was able to report profits for the year of \$372,030, as against a loss in the previous year of \$156,712. Against this the only actual cash disbursement was represented by the payment of bond interest amounting to \$260,854.

The general statement of assets and liabilities also reflects the improvement that has occurred. Current assets amount to \$2,455,150, as against current liabilities of \$1,070,444, leaving a working capital of \$1,384,706. In the inventories pulpwood, logs and lumber stand at \$879,205 compared with \$2,151,297 at the end of the previous year.

This would seem to indicate that all surplus amounts of pulpwood and lumber have been used in meeting the increased requirements of the company's customers.

The principal items included in current liabilities are accounts payable, \$354,465, down from \$449,872; bills payable, \$199,369, compared with \$191,629; and bank loans secured, \$425,000, down from \$1,998,000. In addition notes, which were outstanding to the amount of \$300,000, on account of new limits have been paid off. This has completed all payments on account of additional limits secured and now the company holds outright 2,056 square miles of timber limits. The company has now built up a reserve for depreciation and sinking fund of \$1,621,920, as against \$1,438,874. The appropriation for the year was \$100,000. It is to be noted that this sum has been maintained through the less active periods, as well as during the successful years. In addition there is a general reserve of \$1,000,000.

C. R. Whitehead, the president in his report, states that in view of the disturbed financial conditions of the world the directors felt it would be some time before their export markets would give a normal return and accordingly operated their plants with the strictest economy.

United Paper Board Co. Profits

The United Paper Board Company for the six months ending November 25 last reports net profit of \$121,149 after expenses and taxes in contrast with net loss of \$96,116 for the corresponding period of 1921.


Profits before deduction of expenses and taxes amounted to \$223,612 compared with a loss of \$906 in the same period of the preceding year.

DUPONT

Technical Service to Dyestuffs Users


PONTACYL RUBY PL CONC				Price
Class	Acid			
Shade				
Strength	Good			
Solubility	Good			
Affinity for Cellulose	None			
Mordanting	Very little			
Bleeding				
METHODS OF APPLICATION				Good
Beater	Good	Dipping	Good	Good
Calendar	Good	Coating		Good
STOCK				Good
Unbleached Sulfit	Good	Ground Wood	Good	Good
Bleached Sulfit	Good	Soda	Good	Good
Rag		Kraft		Good
FASTNESS PROPERTIES				Fair
Light	Excellent	Acid	Fair	Fair
Alkali	Fair	Chlorine		Fair
Change in Artificial Light—Yellower				Medium
Use	Large			Medium
Writing	Large			Medium
Bond	Medium			Medium
Cover				Medium
Blotting	Medium			Medium
Tissue	Medium			Medium
Wall	Medium			Medium
Book	Medium			Medium
	Magazine			Medium
	Wrapping			Medium
	Manila			Medium
	Kraft			Medium
	News			Medium
	Boxboard			Medium
	Leatherboard			Medium

Dyestuff Bulletins similar to the above are available for every du Pont dyestuff. They cover thoroughly the properties of the dye and instructions for its use. Write us for those covering colors in which you are interested.




Pontacyl Ruby PL Concentrated


8 oz



2 lbs.



5 lbs.



FORMULA

1000 lbs. Bleached Sulfit
20 lbs. Blue
25 lbs. Alum

Pontacyl Ruby PL Concentrated is an acid dyestuff which possesses very good affinity for the fibers and gives practically clear backwaters even in heavy shades. It is fairly fast to acid and alkali and has excellent fastness to light. It is used principally as a shading red in combination with the Du Pont Tinting Blues and in the production of pink shades on all medium to high grade papers.

Pontacyl Ruby PL Concentrated possesses good solubility and is very suitable for dipping, calender coloring and coating.

E. I. DU PONT DE NEMOURS & CO., Inc.
WILMINGTON, DELAWARE

LOOK FOR INCREASED VALUES IN KALAMAZOO PAPER STOCKS

While Losses Have Been Considerable in the Past Six Months They Have Been More Theoretical Than Active and With the Healthy Revival in Business Which Is Indicated These Paper Losses Should Be Wiped Out in the Next Few Months—Late Hale P. Kauffer, Chairman of Board of Bryant Paper Co., Leaves Estate of \$594,182.92—Monroe Paper Co. to Erect Buildings

[FROM OUR REGULAR CORRESPONDENT]

Kalamazoo, Mich., January 10, 1923—Holders of active stocks in local concerns are looking forward to 1923 with the hope that the year will be one of revival in values, thus making good the losses that have been sustained during the past 12 months. This is particularly true of most of the paper stocks, which have slumped considerably.

During 1920 when the New York stock market was showing record low levels, local paper securities held pretty strong. It was not until the slump in the business became generally apparent that the local market began to fall off. The result is that within the past six months particularly paper losses have been considerable.

According to Leo H. Swiat, of the Olmsted & Mulhall stock and bond department, the past year has been an era of bond buying almost exclusively. Stocks have offered little attraction to local buyers. This has naturally tended to a slump along the line the drop ranging from 1/4 a point to 5 1/2 points on the various issues affected.

The losses have been more theoretical than actual, for holders of securities have been sitting tight, refusing to dispose of their holdings unless able to get close to former market quotations. Trading has been limited to a total of a few thousand shares at the most. With a very healthy revival in business indicated, these paper losses should be wiped out in the next few months.

One factor that cannot be overlooked is the sympathetic effect of the forced reorganization of the Eddy Paper company and the formation of its successor, the Eddy Paper Corporation of Illinois. By this move 700,000 shares of \$10 common stock and 175,000 shares of \$10 preferred stock are to be exchanged for 31,250 shares of no par value stock in the new Illinois company. The most optimistic figuring cannot give a return of over seven to eight cents on the dollar at least for the time being. All classes of buyers were hit hard by this debacle.

Comparative Stock Sheet

The comparative local market quotations for Dec. 30 and January 1, 1922 according to the Olmsted & Mulhall stock sheets follows:

	Dec 30, 1922		Jan 1, 1923	
	Bid	Asked	Bid	Asked
Bryant	12	12 1/2	17 1/2	18
K. V. P.	9 1/2	10	12 3/4	13 1/4
Allied com	2 1/8	2 5/8	3	3 1/2
Allied pfd	7 1/2	8	8	8 1/2
Sutherland	9	10	9 1/4	9 3/4
Rex	15	17	17 1/2	18
MacSimBar	5	7	6 1/2	7
Kal. I. L. B.	11 1/2	12 1/4	13	13 1/2
Kalamazoo	17 1/2	18 1/2	20	21
West Bd	15		12 3/4	13 1/4
Hawthorne	8	9	9 1/4	9 3/4
Watervleit	16 3/4	17 1/4	20	21
*Standard	12	15	25	28
Lee units	115	125	115	125
Michigan	15 1/4	16 1/4	17	17 1/2

*Ex dividend

M. B. King to Vote Stock of Late J. F. King

Letters of trusteeship were issued Saturday by John L. Hollander, judge of the probate court, granting to Merrill B. King, president of the Rex Paper company, authority to vote the stock of the late John F. King, who died last spring, leaving an estate, valued at \$220,000, including 14,780 shares of stock in the Rex Paper company, inventoried at \$177,360.

M. B. King is empowered by letters issued to vote the stock of the J. F. King estate, at the annual meeting of the Rex Paper company, which will be held, Tuesday, January 16. In compliance with the provisions of the authority granted, M. B. King has filed a surety bond of \$250,000 to carry out the provisions of the will.

According to the will of the late John F. King, Merrill B. King and Dorothy Kraemer were named as trustees. Of the 14,780 shares of Rex Paper stock, 4,200 shares were set aside for Alice B. King, widow of the deceased, and the balance, 10,580 shares, was divided equally between the son and daughter, Merrill B. and Dorothy. The dividends are to be disbursed as the stock is held.

Estate of Late Hale P. Kauffer

An estate of \$594,182.92 was left by the late Hale P. Kauffer, chairman of the board of the Bryant Paper company, according to the inventory just filed with the probate court. It was mostly in stocks and bonds. The chief stock items list are: 20,000 shares of Bryant Paper common, valued at \$275,000, 3,422 1/2 shares preferred stock Bryant Paper, \$34,977, Kalamazoo Vegetable Parchment common 5,165 shares, \$51,630, Kalamazoo Railway Supply company, 2,000 shares, \$27,000, Arpco Twist Drill & Tool company, 1,500 shares, \$15,000. Bonds listed: Fuller & Sons Manufacturing company, \$15,434.58, Kalamazoo Sanitary Manufacturing company, \$9,800, Superior Printing company, \$5,000, Wilson & company, \$1,980, Kalamazoo Motors corporation, \$950, State of Michigan soldiers' bonus, \$10,095.50, United States certificates of indebtedness, \$25,470.

Monroe Paper Co. to Erect Buildings

President Leonard Mitchell, of the Monroe Paper company, is authority for the announcement that the erection of several buildings will be undertaken in the immediate future. They will be of factory construction type frame and concrete blocks and one story high. They include an engine room, machine room, heater room and offices. In addition there will be a considerable purchase of mill equipment and machinery and office furnishings. A large portion of this plant was destroyed by fire in December, entailing a loss of over \$50,000.

General Trade Notes

The Monroe Binder Board and Consolidated Paper companies of Monroe, are made defendants in a suit for \$10,000 filed by Alton Brancheau, of that city. He declares that while operating a scoring press, October 3, 1917, his left hand was caught and crushed.

It is announced that the Consolidated Paper company, River Raisin Paper company and the Monroe Paper Products company, all of Monroe, have arranged their working conditions for 1923, adopting a plan of five working days each week and an advance of 10 per cent in wages. This schedule affects 3,500 employees.

To Act on Forestry Referendum

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 9, 1923—The question as to whether or not a referendum will be taken by the United States Chamber of Commerce on the forestry question will be put up to the Board of Directors of the National Chamber at their next meeting, which is to be held in Washington on February 7 and 8. Officials of the chamber refuse to discuss the forestry question further than to state that Charles S. Keith, the prominent Southern lumberman, who is a member of the board, has submitted a minority report which has been signed by several members of the forestry committee.



Growing Two Blades of Grass in Place of One

Hours of Operating Profit may
be added by the Patented Re-
movable Fourdrinier which
eliminates the Removal of rolls,
savealls and suction boxes
when Changing Wires

BELOIT IRON WORKS
BELOIT, WISCONSIN



PAPER MERCHANTS IN TORONTO LOOK FORWARD TO GOOD YEAR

While Trade Has Not Gathered Any Great Momentum As Yet It Is Expected That It Will Show a Satisfactory Expansion Soon—Reports of Many Building Extensions Among the Mills Seem to Indicate That the Year Will Be a Very Active One—Increasing Scarcity of Ground Wood Influences Additional Stiffening in Price—Ontario Mills Making Important Improvements

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 8, 1923.—The jobbers have finished their inventories and this week salesmen started out on their rounds for the coming year. It is too early yet to speak authoritatively on general conditions and it is not anticipated there will be any great movement until nearer the end of the month. There is a splendid feeling existing in all the ranks of the paper trade and this is shown on every hand as reports come in steadily regarding extensions that will be made by mills during the coming year. This month nearly all local firms will hold their annual meetings and the statements presented will reveal considerable improvement over last year. Newsprint continues very active and book and writing mills are getting busier after a quiet three or four weeks. Some nice contracts have been secured for the next few months.

The demand for waste paper of all grades is very good and the requisitions for new cotton cuttings are firm while prices hold up well. Mills have held off buying until the end of the year but it is now expected that they will be in the market again. There are no changes in prices to report with the exception that there have been some slight readjustments on wall board and there is an advance of about three quarters of a cent on big Manila which amounts to an increase of about twenty per cent on the average.

Ground Wood Pulp is Scarce

There is still considerable scarcity of ground wood pulp reported by some of the mills owing to low water and the price has been stiffening all the while. Various figures are heard from \$35.00 up. The Foley-Ruger plant at Thorold, which a couple of years ago was acquired by the Beaver Companies and has been idle for a long time, has again been put in operation and is now running to capacity. The production of several mills is way below normal owing to poor water conditions.

Denies There is Any Merger

During the past few days there has been revived in old rumor that the Spanish River Pulp and Paper Mills Ltd. and the Abitibi Power and Paper Company of Iroquois Falls, Ont., would merge their interests. Col. Thomas Gibson, of Toronto, who is vice president of the former company, states that he knows nothing about the report, which seems to be an old one that crops up every now and then. The Spanish River Company is now turning out about 670 tons of newsprint a day at its three plants and the Abitibi Company about 500 tons a day. One machine of the Fort William Paper Company, Fort William, turned out its first newsprint last week and will soon be in regular operation. E. G. Gilbert is the superintendent of the new mill and comes highly recommended.

Taking Out Much Pulpwood for Export

A Canadian subsidiary company of the Hammermill Paper Company of Erie, Pa., last year bought in the Thunder Bay district around Port Arthur, Ont., and exported from the head of the lakes some forty-five thousand cords of pulpwood. During the present season it is expected that this company will take out about seventy thousand cords and in so doing will expend a million dollars. To carry out this enterprise there will be employed some 500 horses

and 1,500 men. For exportation purposes ten vessels are kept busy during the summer. Twenty-five per cent of the wood exported is purchased direct from settlers on timbered land. Over seven million dollars have been expended during the last four years in pulp and paper plants directly tributary to Port Arthur and Fort William and 470 tons of finished product will be the daily output during the coming year.

Tribute to Late Alex Buntin

At a recent meeting of the Toronto members of the Canadian Paper Trade Association a resolution of sympathy was passed relating to the esteem and respect in which the late Alex Buntin, head of Buntin Reid Company, was held and a copy will be forwarded to his wife and family. The book and writing section of the Canadian Pulp and Paper Association also held a meeting lately and passed a resolution of condolence.

New Logging Railway Completed

The new logging railway, which is sixteen miles long, has been completed by the Abitibi Power and Paper Company of Iroquois Falls, Ont., the last spike being driven last week. The road taps a well wooded district and over it will be brought each winter a large quantity of the pulpwood required for the mills. The company is taking out a huge quantity of wood this season and has a vast army of men employed in the bush.

Several Mills Making Improvements

Mills all over Ontario are getting ready for an increased output. The Don Valley Paper Company of Toronto has just completed the installation of a pulp conveyor for carrying pulp from the cars to the storage room. The Belleville Paper Company of Belleville, Ont., which makes straw board for corrugated purposes, has installed new steam boilers and made other alterations which will increase the capacity of the plant. The Specialty Paper Company, of Camden East, Ont., is now making use of a new deinking process and will soon put on the market high grades of book and writing papers. The present output of the company's plant is about twelve tons daily.

Development of Publishing Business

According to statistics recently issued by the federal government Canada has now over one thousand daily, weekly and monthly publications, of which over four hundred are owned and printed in Ontario. The number of daily papers with morning editions in Canada is thirty-six, with evening editions eighty-six, and with Sunday editions five. The number of persons employed in the newspaper field is nearly sixteen thousand. The consumption of newsprint is considerably over one hundred thousand tons and is growing rapidly owing to the constantly increasing size of the daily publications.

News and Personals of the Industry

W. M. Oulster, for the past four years with the Southam Press Ltd., Toronto, has joined the city sales staff of the Rudd Paper Box Company, Toronto.

A. P. Costigine, secretary and safety engineer of the Ontario Pulp and Paper Makers' Safety Association, Toronto, has issued his 1923 Safety Calendar, which is having a large call from the mills. It is well illustrated and intended to drive home many truths in the interest of safety.

A. H. Paffard of Toronto has entered upon his new duties as manager of the Toronto warehouse of the F. B. Eddy Company, of Hull, Que. J. F. Taylor of Hull, sales manager of the company, was in Toronto last week on business.

Now Lasher & Gleason, Inc.

[FROM OUR REGULAR CORRESPONDENT]

BRIDGEPORT, Conn., January 8.—The Gorton Paper Company of Bridgeport changed its name to Lasher & Gleason, Inc.

EXACT MICROMETER

**Actual
Size**

**Height
6 $\frac{1}{4}$ in.**

**Diam.
Dial
5 $\frac{1}{4}$ in.**

**Depth
of throat
3 $\frac{5}{8}$ in.**



**Bevel
Plate
Glass**

**Nickel
finish
top**

**Black
enamel
base**

The Exact Micrometer is automatic in its action, and as its name implies, Exact, in recording the thickness, because it is built on the only correct principle. There are no Pinions, no Levers, no Gears of any kind used for transferring the action of the Plunger to the reading Indicator. The Indicator hand is firmly attached to and becomes a part of the measuring Plunger, hence, accuracy.

It contemplates 300, registers 100 around the dial, repeating three times (trip indicator). The graduations are three times as far apart as on any of our previous Micrometers or as on the German Micrometer, hence, are more easily read.

'For Automatic Weighing Scales for giving the weight of 480 sheets or 500 sheets of paper or for ascertaining the weight per M Sq Ft of box boards write to us for full description and price.'

Write for Life Size Circular

E. J. CADY & COMPANY, 326 West Madison Street, Chicago

These instruments are carried in stock by C. B. Hewitt & Bros., 16-24 Ferry Street, New York

NEW ENGLAND SALESMEN HEAR REPRESENTATIVE PAPER MEN

Meeting of the New England Section of the Salesmen's Association at the Colony Club, Springfield, Mass., on Friday Evening of Last Week Is Addressed on Interesting Subjects by Numerous Well Known Speakers in the Paper Business—Gathering Is Unexpectedly Large and Points to Increasing Interest in the Work of the Association—Those Who Were Present

[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, MASS., January 6, 1923—Last evening at the Colony Club, was ushered in the first of the rallies of the Nineteen "Plenty" Three meetings of the New England section of the Salesmen's Association of the Paper Industry. The pace set by the large attendance at the meeting augurs well for the future meetings to be held during the year. As the hour for the dinner approached it was observed that the committee of arrangements were in a quandary as to whether they would be able to provide for the unexpected arrivals, as the returned acknowledgments of the invitation did not indicate there would be present over half the number of the sixty who sit down to dinner. However the situation proved the resourcefulness of the salesmen's committee and it was a compact, congenial gathering which occupied the dining hall of the club, the former mansion of Mr. Wesson, one of the founders of the Smith & Wesson Arms Company of Springfield.

F. W. Main Presides as Toastmaster

Prior to the dinner, time was spent inspecting the club house, which is noted for its interior decorations, tapestries and paintings. John E. A. Hussey, Walter I. Perry, Henry E. Linquist and F. W. Main, who comprised the committee of arrangements, provided a program of speakers who kept their audience inspired during the evening with their reminiscences of their early experiences as salesmen. As committee chairman Mr. Hussey introduced Mr. Main as toastmaster, and the latter after expressing appreciation for the large attendance introduced Rev. John M. McGann of Springfield, who related his early desires to enter the business world, and in a humorous strain told of his experiences as he progressed from the position of office boy to that of an expert in the woolen business. From this he entered the ministry and stated he was still a salesman, selling religion.

Remarks by W. J. Raybold

Walter J. Raybold, president of the American Paper and Pulp Association, introduced as a "brother salesman still in the harness," spoke on the evolution of selling which has taken place in the paper industry. He stated there were three periods which showed the changes that had taken place since he first entered the industry as office man in the Agawam Paper Company. The first was the original method when men took a trunk of samples and sold goods at any price obtainable. Then came the period of the salesman with the brief case filled with samples, selling private brands with ruinous competition, and then the present day when salesmen carried few if any samples in his pockets and was selling mill brands, service and the house he represented. He emphasized the expense of present day selling methods and mentioned the fact that many fortunes were made in the original days. Stressing the point that religion and business could well mix he added that the paper industry could be placed on an even higher plane than it enjoyed today if all "played the game square."

C. E. Crocker Speaks

C. E. Crocker, of the Crocker-McElwain Company, spoke of the value of get-together meetings in all branches of the industry and heartily favored all associations where it was possible for men to

exchange ideas. He said the individuals obtained from their association work just what they put into it. Reflecting on the transition which has taken place in the paper industry, he prophesied that other changes would take place as time progressed, just what they would be he could not tell and wished he could as he would get busy now and beat the others to it.

S. L. Willson Classifies Salesmen

S. L. Wilson, the newly elected vice-president and general manager of the American Writing Paper Company, stated that in his new environment he was returning to the scenes of his early days in the paper industry, and felt perfectly at home among those present. Everyone was on the *qui vive* as to what his expressed attitude would be on the mill brand situation, but his chief talk was on his classification of a salesman gauged on his recent years' experience as a buyer. He graded paper salesmen, from his knowledge of them, in paper terms, such as Antique, Fine, Superfine, and Loft Dried. The Antique was the type long passed out, the Fine was the fellow of personality who could read character, fulfilled his promises and balanced the interests of his employer with those of the customer, the Superfine was the wise fellow who rushes to the command of a situation and soon fades out of the picture and the Loft Dried the one who sleeps until ten in the morning and felt bored for the rest of the day. As to the mill brand feature he stated his present views were in accord with the policy of his present organization though there still remained many strongly inclined to private brands and his mission would be to convert them to the present methods of standardization.

J. L. Fearing Favors Weekly Lunches

J. L. Fearing of the Chicago office of the International Paper Company, called attention to the benefit which salesmen in his section have derived from their weekly lunch hour meetings, where it has been possible to assist the younger salesmen just entering the industry in overcoming many rough spots in their visitations. He believed it the duty of the more experienced men to educate the newer men in the many ramifications which enter into the selling of paper and stated the get-together weekly meetings were accomplishing much in this direction. He strongly advocated the establishing of a certain day every week in each large city where salesmen could gather at lunch and visiting salesmen would be certain of meeting the local men and others.

Dr. Baker Tells About Scandinavia

Mr. Main, before introducing Dr. Baker, secretary of the American Paper and Pulp Association humorously referred to the latter having prepared a speech for the Chicago meeting which he had not delivered. Dr. Baker, speaking on the foreign paper situation, referred to his recent visit abroad, and said, "The manner in which Scandinavian paper mills specialize on quality, to meet particular requirements of their export trade, is a most notable characteristic of the paper industry in northern Europe."

"This unwillingness to make up their product to meet the special wishes of their customers in various parts of the country might serve as a valuable lesson to our American manufacturers, for we must gain an export trade of considerable volume if we are to have the prosperity to which this great American industry is entitled."

"Export trade can be the balance wheel to stabilize the paper industry of the United States and the difference between our methods and those of Scandinavia struck me most forcibly when I spent two months of last summer visiting the mills in Sweden, Finland and Norway."

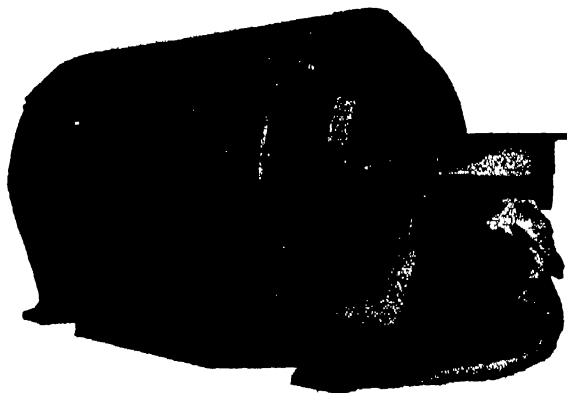
"The Scandinavians, forced by the stern necessity of wresting a living from the bleak north country, have come to recognize quality as the first consideration in their manufacture, and this is particularly noticeable in paper. In America we think in terms of quantity production, but the Scandinavian pulp has won its place in the world by its high quality. Scandinavian technical men study Amer-

(Continued on page 34)

"IMPCO" TAILING SCREENER

FOR SCREENING GROUND WOOD TAILINGS

Very Low
Power
and
Upkeep Expense



Delivers
Rejections Free
from Good
Stock

ANOTHER UNIT OF OUR CLOSED SYSTEM FOR PULP SCREENING

WRITE FOR FULL DETAILS

CORRESPONDENCE A PLEASURE

IMPROVED PAPER MACHINERY CO.

Nashua, N. H.

SHERBROOKE MACHINERY CO., LIMITED, SHERBROOKE, CANADA

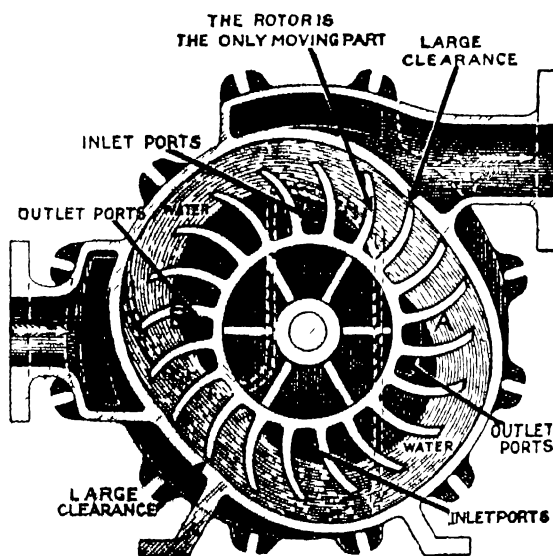
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Vacuum
Produced
Absolutely
Without
Pulsation

—
No Vibration

—
Saves Wires



Only One
Moving Part

—
No Rods, Pistons,
Crank Shafts
Loose Moving Parts
and No Gears

—
No Expert Attendance

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Chicago, Ill.

THE NASH ENGINEERING CO.
WILSON POINT ROAD
SOUTH NORWALK, CONN

New England
Representative
G. H. GLEASON
185 Devonshire Street
Boston, Mass.

Recent Incorporations

LINETT PAPER CUTTER COMPANY Manhattan, New York Capital \$5,000 Incorporators N and J Linett/kv, D Linett Attorney H Lieb, 58 Ludlow street

MCKENNEY WILLIAMS CORPORATION Brooklyn New York Corrugated paper boxes 2500 preferred stock \$20 each, 2500 common stock, no par value active capital, \$5,000 Incorporators J I McKenney, I H Williams H Heyman Attorney, N D Shapiro 50 Court street Brooklyn

H FISHMAN PAPER COMPANY Bronx New York Capital \$50,000 Incorporators H Fishman A and A Werner Attorney J Klein 152 West Forty second street

COMMERCIAL DEVICES COMPANY Wilmington Delaware Gunned Labels Capital \$500,000 Corporation Registration Company

STUYVESANT PULP AND PAPER COMPANY Manhattan New York \$20,000 Incorporators W Braunstein C Reiss I Himmelfarb Attorney H G Marks 63 Park Row

SIMON MARKOWITZ PAPER BOX CORPORATION Manhattan New York Capital \$15,000 Incorporators H I Simon S Mabrowitz G C Woolf Attorney, J I Bernstein 5 Beckman street

FRED D. MOKAN COMPANY Rochester New York make paper and twines 100 shares common stock no par value active capital \$10,000 Incorporators F D and C A and H S Morgan Attorneys Sutherland & Dwyer Rochester

SOREL TERMINAL CO Albany make paper 2000 shares preferred stock \$100 each 3000 common no par value active capital, \$10,000 Incorporators, J A Dix J A O'Connor O F Klein Attorney W J Byrne Albany

CAPITAL INCREASES

AMERICAN PAPER MILLS CORP Manhattan New York \$100,000 to \$125,000

LOUISVILLE PAPER COMPANY Louisville Kentucky \$250,000 to \$275,000

NASHVILLE PAPER STOCK COMPANY Nashville Tennessee \$5,000 to \$50,000

UNIVERSAL CREEP AND TISSUE MILLS Manhattan New York \$30,000 to \$50,000

NEW ENGLAND SALESMEN MEET

(Continued from page 32)

men will use methods far more intensively than we study their practices. They have to do this perhaps to compensate for the lower standards of their common labor.

Scandinavian pulp has won such a high place by its quality together with its cheapness of production that some of our American mills have actually been closed because of foreign competition which they are unable to meet successfully.

Mr McLaurin Asks Executives' Support

I Donald McLaurin vice president of the New York division of the Salesmen's Association made a strong appeal for the support of the chief executives of the industry stating that their co-operation would benefit the entire industry. He further urged that the heads of the mill organizations make occasional calls on their customers with their salesman, as he argued the effect of a personal visit from the mill head would have a magical effect on the customer and create a more favorable impression of the company on future calls by the salesman.

Mr Galliver Urges Cooperation

President George A Galliver of the American Writing Paper Company, made his appearance at this juncture and was called upon by Mr Main for a talk. Mr Galliver voiced a high opinion of association work and its value to any industry. He mentioned the educational work his company has planned to carry out for the next two years in the interest of distributors and customers, by

which the entire industry would be benefited. He urged upon all the necessity for whole-hearted co-operation and the elimination of criticism which could be only of a destructive character.

Philip T Dodge, president of the International Paper Company, who had intended to be one of the speakers sent a telegram advising that an unexpected important business matter prevented his being present and a similar telegram was received from George Gibson of Chicago former president of the National Association. Walter F Perry an absent member of the Committee on Arrangements, being in Chicago on a business mission was sent the following telegram: Why don't you stay home when you expect company? Sixty members send you their greetings.

Those Who Attended

Among those present were

W J Raybold B D Rising Paper Company Housatonic Rev John McGowan Springfield A D Collin C H Dexter & Sons, Windsor Locks, C A Crocker Crocker-McElwam Company Holyoke S L Willson American Writing Paper Company, Holyoke, George A Galliver American Writing Paper Company, Holyoke, Edgar S Bliss Worthy Paper Company Mittineague G Frank Merriam Holyoke Card and Paper Company Springfield F H Naylor Writing Paper Manufacturers Association New York City, A A Tynane PAPER TRADE JOURNAL John Cornell I A Walden H I Freedwell H H Reynolds B D Rising Paper Company Housatonic I I Leaning International Paper Company Chicago I D McLaurin Liberty Paper Company New York City John F A Hussey International Paper Company Boston H I Lindquist Chemical Paper Manufacturing Company Holyoke Charles K Widham Z & W M Crane Dalton W D Thompson American Writing Paper Company Holyoke I W Main Worthy Paper Company Mittineague Hugh P Baker American Paper and Pulp New York City H A Casey Chemical Paper Manufacturing Company Holyoke M I Whitcomb Chemical Paper Manufacturing Company Holyoke I R Coppice Chemical Paper Manufacturing Company Holyoke A P Fines American Writing Paper Company Holyoke W J Norton American Writing Paper Company Holyoke H M Grasselt American Writing Paper Company Holyoke R G Hall American Writing Paper Company Holyoke C H Barr Crocker-McElwam Company Holyoke Arthur I Fines Holyoke Card and Paper Company Springfield I C De Costa American Writing Paper Company Holyoke I H Sturtevant American Writing Paper Company Holyoke G M Holburn American Writing Paper Company Holyoke George A Davidson Howard Smith Paper Mills Ltd Toronto T W Harrington Crocker-McElwam Company Holyoke Thomas Compton Walsh Hollingsworth & Vose Company Boston Kenneth R Bunce Chemical Paper Manufacturing Company Holyoke Dexter D Collin C H Dexter & Sons, Windsor Locks (guest of Mr Coye) P Schuyler Church G H Mead Company Dayton H A Wingate C H Dexter & Sons Windsor Locks Gordon Blanchard Crocker-McElwam Company Holyoke G T Standbridge International Paper Company, Boston, Edward I Izoff Chemical Paper Manufacturing Company, Holyoke, Spencer M Holden Crocker-McElwam Company Holyoke, Edward H Bush Crane & Co Dalton Charles H Coye C H Dexter & Sons Windsor Locks, John A Snyder American Writing Paper Company Holyoke J B Thayer, United States Envelope Company, Springfield, F T Burkhardt, Parsons Paper Company, Holyoke Carl E Lincoln, American Writing Paper Company, Holyoke H M Goodman American Writing Paper Company, Holyoke, Roger B Taft Hammermill Paper Company, New York City Philip W Gridley, Crocker-McElwam Company, Holyoke, Henry I Savage, International Paper Company, Boston, I N Esleeck, Esleeck Manufacturing Company, Turners Falls, Don Weston, Byron Western Company, Dalton, L E Maglathlin, Strathmore Paper Company Mittineague, E V Johnson, P R K & Co

VELURE SURFACE

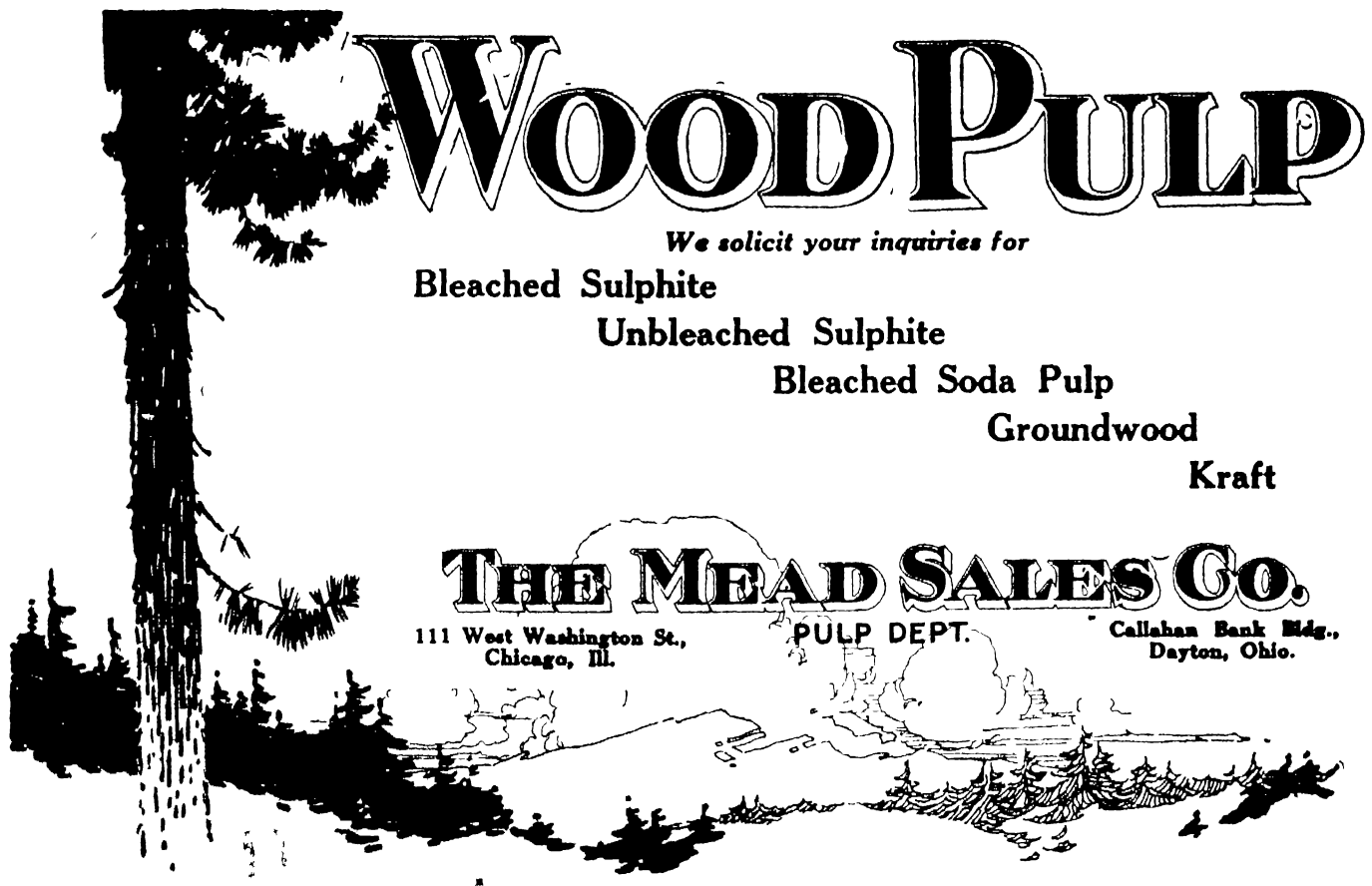
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Standard Felts for Finish
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Chicago, Ill. PULP DEPT. Callahan Bank Bldg.,
Dayton, Ohio.

Obituary

William T Whiting

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 9, 1923—William T. Whiting, 84, vice president of the Wisconsin River Paper and Pulp Company since its organization and one of the best known papermill men in the middle west, died at his temporary home in Stevens Point on New Year's day after a brief illness from pneumonia. The funeral was held on Wednesday, January 3, at Stevens Point. The body was placed in a vault where it will remain until spring when it is to be taken to Ripon for interment in the family lot.

Mr. Whiting was in his usual good health until a few days before his death. He had attended a Masonic meeting the night before his final illness and his condition was not regarded as serious until shortly before he died. Mr. Whiting had lived in Oshkosh for a number of years but had moved to Stevens Point last fall to be near his daughter who is a member of the Stevens Point high school faculty.

Mr. Whiting was born at Stamford, N. Y., but practically all his life was spent in Wisconsin. He attended Ripon college and served in the Civil War, attaining the rank of captain. After the war he returned to Ripon and seven or eight years later he went to Stevens Point where he acquired a tract of land along the Wisconsin river and soon after interested Fox River Valley capitalists in a project to develop his property by erecting a paper mill. The Wisconsin River Paper and Pulp Company was organized and Mr. Whiting was actively connected with that institution until a few years ago. Mr. Whiting also was interested in development of oil regions in Oklahoma, organizing the Whiting Oil Company which later were sold. Mr. Whiting also was connected with numerous other institutions.

The survivors include the widow, one daughter, two brothers, Spencer Whiting of Ripon and George A. Whiting of Neenah, president of the Whiting-Plover Paper Company.

Frederick Lindsey Curtis

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 8, 1923—Frederick Lindsey Curtis, treasurer of the Curtis & Bros. Inc., of Newark, Del., died on Saturday evening last at his home at Red Oak Road and Willard street, Wilmington, Del., after an illness of five weeks of pneumonia complicated by heart trouble. He was but forty-two years of age. Mr. Curtis was a native of Newark, Del., the son of Alfred A. Curtis and Sarah Lindsey Curtis. He was educated in the Newark Academy, The Friends' School and Princeton University, graduating from it with the Class of 1902. He first engaged in the paper business in Philadelphia and then in New York and afterwards became treasurer of the Curtis & Bros. Inc., at Newark. He was a nephew of former Chancellor Charles M. Curtis of Delaware and was one of the best known residents of New Castle County. He held membership in the Wilmington Country Club and the Union League of Philadelphia. He is survived by a widow and four children. Funeral services were held on Tuesday afternoon last from Trinity Episcopal Church, Wilmington, interment being made in the Wilmington and Brandywine Cemetery.

Timothy H. Fowler

HOLYOKE, Mass., January 8, 1923—Brief reference was made in the PAPER TRADE JOURNAL last week to the death December 23 of Timothy H. Fowler, aged 74, treasurer of the Hampden Glazed Paper and Card Company and connected with various other financial and manufacturing enterprises after a brief illness with pneumonia.

In the death of Mr. Fowler, Holyoke has lost a citizen who has filled many positions of trust with fidelity. Forty years ago he came to Holyoke and as treasurer of the Hampden Glazed Paper

and Card Company had devoted his life to its developments. In 1897 he married Harriet E. Delano of St. Louis. They had just passed their 25th anniversary. Mr. Fowler has always been one of Holyoke's liberal givers and had been identified with many of its benevolent institutions.

He was born in Agawam February 14, 1849, the son of George and Mary Ann Hazen Fowler. In 1881 his brother, George F. Fowler organized the Hampden Glazed Paper and Card Company of Holyoke and the following year Timothy H. Fowler joined the company. In 1883 he was made its secretary and treasurer and had since held these positions. He was one of its board of directors,



TIMOTHY H. FOWLER

as well as a director of the Millers Falls Paper Company of Millers Falls, and the Valley Paper Company of Holyoke.

Mr. Fowler was a member of the Second Congregational church and took an active interest in all its activities. He was a trustee of the Holyoke City Hospital and treasurer of its endowment fund, director of the City National Bank and a trustee of the Mechanics' Savings bank, and also a director of the Holyoke City Library. Mr. Fowler's hobbies were hunting and fishing and the cultivation of flowers surrounding his beautiful home at 273 Essex street. Mr. Fowler is survived by his widow Harriet E. D. Fowler and his two brothers, George F. Fowler and Norman N. Fowler of Springfield, and several nephews and nieces.

Henry C. Campbell

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 9, 1923—Henry C. Campbell, assistant editor of the Milwaukee Journal, known to nearly every paper manufacturer in the middle west, died January 2 at Milwaukee from pneumonia. Mr. Campbell was one of the most active workers for reforestation in this country. His newspaper was constant in its efforts to conserve present forest resources and constantly was urging a systematic plan of reforestation. Mr. Campbell was an authority on the subject.

Stone & Forsyth Increase Capital Stock

BOSTON, Mass., January 8, 1923—Stone & Forsyth Company, paper merchants, has increased its capital stock from \$200,000 to \$400,000 by a 100 per cent stock dividend. The surplus on January 31 last was \$284,628.


Agents
SUNDS AKTIEBOLAG
STRONG SULPHITE
indirect cooking

PERKINS-GOODWIN CO.
NEW YORK
PULP and PAPER

Agents
A/S Toten Cellulosefabrik
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ESSVIK

BLACK  **STAR**

Strong Unbleached Sulphite
and
"ESSVIK"
Easy Bleaching Sulphite
Stocks carried on Dock for prompt delivery

CHRISTIANIA **NEW YORK** **GOTHENBURG**

New York Trade Jottings

John Mathews, Chief of the Paper Division at Washington, D. C., was among the New York trade visitors of the past week

* * *

Maurice Frank, dealer in new cotton cuttings, has opened offices at Room 1018 Flatiron Building, with the telephone number, Ashland 2033

* * *

James C. Deery, prominent New York paper dealer, has changed the location of his company to 464 Broome street, New York, with the new telephone number, Canal 1476

* * *

J. Andersen & Co., of 21 East 40th street, New York, have applied for membership in the National Association of Waste Material Dealers, Inc., Times Building New York

* * *

G. D. Bearce, engineer of the News Print Service Bureau left New York late last week for a month's trip through the Canadian mills, stopping at Albany Monday of this week on the way North

* * *

The board of directors of J. I. Patton & Co. Inc. of 342 Madison avenue, New York, announce that on the first of January, 1923, the name of the company will be changed to Mead, Patton & Co. Inc.

* * *

Louis Leonardis, of 150 Nassau street New York announces that commencing January 1 he has entered into business for himself, handling all grades of paper stock rags waste paper and paper mill supplies

* * *

R. S. Kellogg, secretary of the News Print Service Bureau, Canadian Pacific Building New York last week sent notices to members of the annual meeting of the Bureau to be held at Montreal, Que., January 26

* * *

Ernest R. Behrend, president and general manager of the Hamermull Paper Company, of Erie Pa. left New York Tuesday of this week on the first trip of a six months cruise around the world aboard the steamship *Resolute*

* * *

The Fort Lee Paper Company has subleased from the American Bureau of Real Estate in co-operation with A. Kane Company, the warehouse at 2304 12th street New York along the New York Central Railroad siding for a term of years

* * *

Harry and Ben L. Gerosky, graders and packers, specializing in new cotton cuttings and formerly with Gerosky Brothers, Inc., announce that they are now located in their new seven-story building at 15-17 Greene street, New York. The phone number is Canal 0015

* * *

E. Salomon and H. Rosenberg formerly of the American Woodpulp Corporation, of 347 Madison avenue, New York, are in temporary offices at 46 Cedar street New York Room 501, with the phone number John 4372. They are transacting a paper mill supply business

* * *

Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association, and one of the charter members of the Adirondack Mountain Club, with headquarters at Albany N. Y. was re-elected a member of the board of governors of the Club at a meeting held last Saturday

* * *

The Allied Paper Mills, of Kalamazoo, Mich., announce the appointment of J. W. Qumby, vice-president of Allied Paper Mills, Inc., in charge of their New York office and warehouse, effective

January 1. Mr. Qumby assumed his new duties upon the resignation of D. C. Culbertson

* * *

The Charles W. Knode Company, Inc., formerly of 115 Broadway, New York, has moved its office to 52 Broadway, Room 220, New York with telephone Broad 3014. This concern now represents the Chillicothe Paper Company, the Appleton Coated Paper Company, the Marr-McDonnell Company, and Charles H. Wright and Son

* * *

The business formerly carried on by R. F. Hammond at 342 Madison avenue, New York, has been incorporated under the laws of the State of New York and will be carried on as usual at the same address, with the same personnel, and with Mr. Hammond as president and general manager. After January 1, 1923 payments of accounts should be made to R. F. Hammond, Inc.

* * *

Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association and Oliver M. Porter, secretary of the Woodlands Section of the Paper Industry, are both members of committees to arrange for joint meetings of the American Forestry Association and the New York State Forestry Association. Dr. Baker was one of the founders of the latter organization

* * *

Frank F. Brophy, for the past fifteen years connected with Vernon Bros. & Co., has resigned from that concern and joined the organization of the Domestic Mills Paper Company, to develop their coated, book paper, bond and board division. Facilities are excellent for handling these types of paper in the company's new home in the Terminal Stores, 629 West 27th street, New York

* * *

Taking effect January 1, the name of Castle, Gottheil and Overton dealers in chemical pulp rags, bugging and old papers, of 200 Fifth avenue New York was shortened to Castle and Overton as a result of the death of Leon Gottheil the third partner several months ago. William A. Castle and Frank C. Overton, in their announcement to the trade, stated that business will be continued as usual under the new name and at the same address

* * *

Following along the same general lines as the Kennelly Paper Company paper merchants, of 200 Fifth avenue, New York, the Kennelly Paper Company of Massachusetts was formed at a meeting held in Boston January 4 with the following officers: Quincy P. Emery, president, Thomas C. Green, vice-president and secretary and Albert Kennelly treasurer. The new corporation will deal principally in book papers and will be located at Room 329, 10 High street, Boston, Mass.

* * *

According to the Traffic Bulletin of the National Association of Waste Material Dealers Inc., dated January 5, 1923, the Interstate Commerce Commission has denied the petition of complainant in the case of the Waste Merchants' Association of New York vs. Director-General, Docket No. 10509. This is the case of the local New York Association commonly known as the "loading" case wherein they asked for reparation on account of being forced to load cars where the carriers' tariffs provided that the carriers would perform the loading

* * *

The annual dinner and dance of the Whitaker Paper Company, of 50 Great Jones street, New York, was held last Saturday evening at the Hotel Commodore. All the salesmen and office force of the New York Division of the company were invited, 27 of the 57 present belonging to the selling branch of the organization. Following the dinner speeches were made by A. L. Whitaker, president of the concern, Larz Hammel, C. W. H. Dunbar, D. H. Taggart, R. E. Kreimer, of the company, and E. O. Dorman, the New York manager of the Champion Coated Paper Company

THE APPLETON MACHINE COMPANY



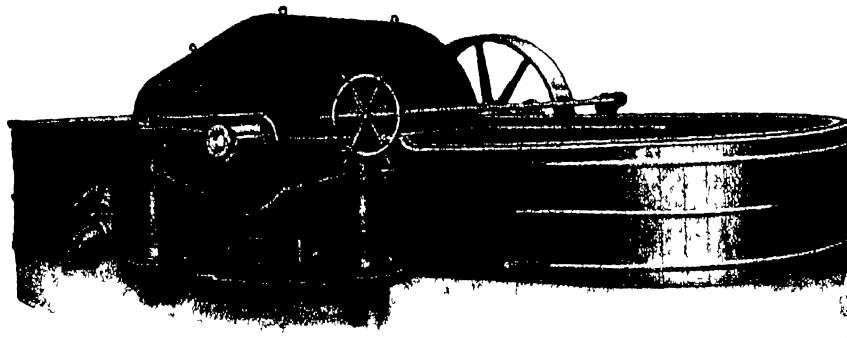
HORIZONTAL WOOD SPLITTERS
CENTRIFUGAL PUMPS
CYLINDER MOULDS
JORDAN ENGINES
WET MACHINES
FLAT SCREENS
AGITATORS
CHIPPERS
DECKERS
ROLLS

APPLETON

WISCONSIN

E. D. JONES & SONS CO.

PITTSFIELD, MASS.



Beating Engine, Tub of Iron or Wood

Manufacturers of

Paper Making Machinery



**Let Them Drink
to your
business health in cups you sell**

each drink a cup—each cup a sale for you and at lowest cost of any cup on the market.

At such prices **SALES RESISTANCE IS NEGLIGIBLE** and our direct advertising assistance in your city will get immediate results as it is now doing in many cities

Burt's Paper Drinking Cups are made of fine white paper, without wax to make drinks taste, and are reinforced so holders are not necessary. They are kept under glass and cannot be wasted or soiled before use

Cups retail at one fourth cent—dispensers at five dollars

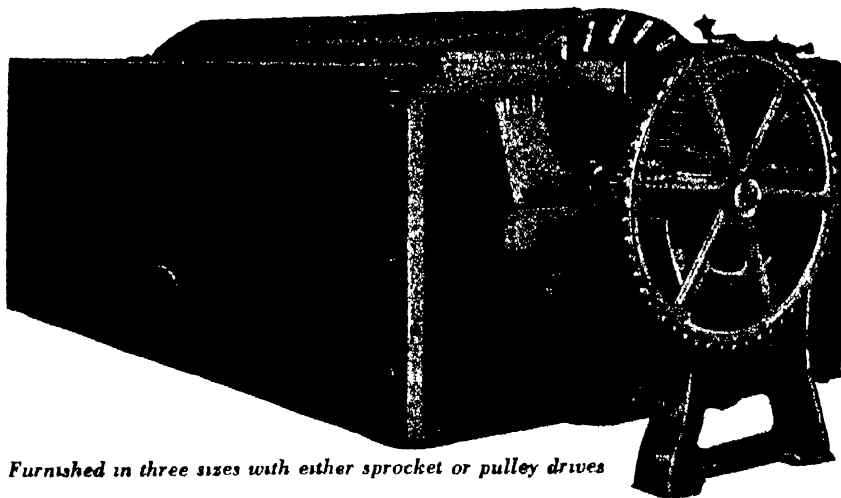
F. N. Burt Company, Ltd.
Paper Cup Division
Buffalo, N. Y.

PROFESSIONS: WORKMAN, OFFICE WORKER, BANKER, NURSE, GUEST, HOTEL

THE WOOD'S MACHINE

Distinctive performance and intensified confidence in this machine as a Pulp Thickener, Save-All, Washer or Water Filter insure success in its building

On the market but a few years, our installations number more than **Eighty-five** **Twenty-nine** sold the past year



Furnished in three sizes with either sprocket or pulley drives

MADE BY
GLENS FALLS MACHINE WORKS
GLENS FALLS, N. Y.

Try our Split Cams for your Flat Screens

SIMPLICITY, in cylinder and vat construction, operation automatic, and without couch roll, doctor or any complicated moving parts

DEPENDABILITY, in its simple revolving cylinder only, with nothing to get out of order, requiring little attention, and having a patented principle of maintaining wires always clean, insuring continuous performance

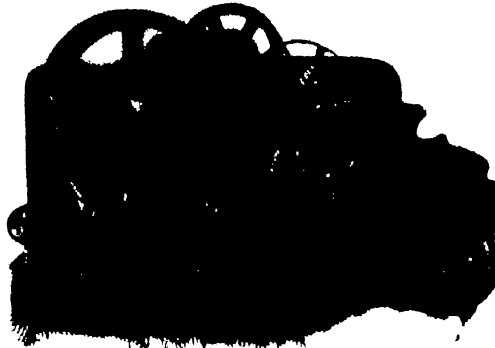
PRODUCTIVENESS, enormous, through clean wires, large screening surface, patented unique method of discharge and freedom from shut-downs

DURABILITY, by rigid construction, ample bearing surfaces, nothing to injure wires and highest grade materials

All these enhance its value and involve upon you the duty of investigation

Don't Use Your Beaters For Rag Cutters

Put in a
GIANT
and cut your stock
thoroughly and evenly



Capacity 2 Tons per
hour

Weight 8500 lbs.

For Roofing and Felt
Stock

NO. 11 TRIPLEX



Canadian Manufacturers Under Patents: WATEROUS ENGINE WORKS CO., Brantford, Ont., Can
I. MARX & CO., London, E. C., sole agents for the United Kingdom

Increased Capacity Lower Cost per Cord

THE

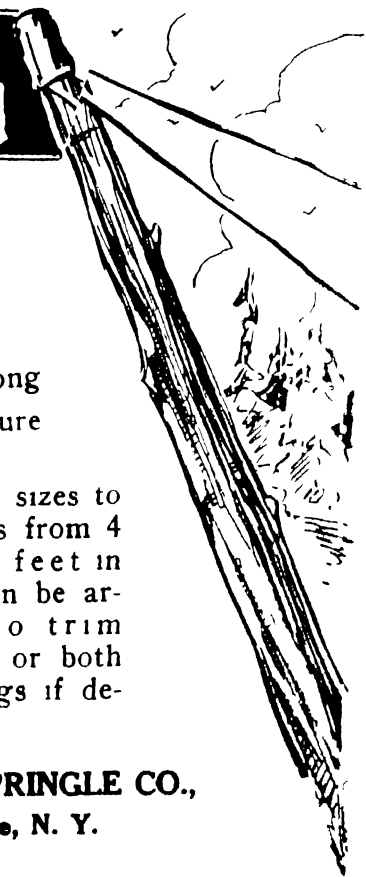
Ryther Slasher

is the most efficient and the lowest cost method of reducing long
logs to uniform short lengths suitable for further manufacture
into pulp and paper



Built in all sizes to
handle logs from 4
feet to 32 feet in
length. Can be ar-
ranged to trim
either one or both
ends of logs if de-
sired

RYTHER & PRINGLE CO.,
Carthage, N. Y.



Editorial

Vol. LXXVI New York, January 11, 1923 No. 2
FIFTY-FIRST YEAR

An Encouraging Outlook

As far as the paper and pulp industries are concerned, the *Monthly Review of Credit and Business Conditions*, published by the Federal Reserve Bank of New York, points out that production during 1922 far exceeded that of the preceding year. In a chart showing the relative advances in wood pulp and paper production, the former is seen to have increased 22 per cent over 1921 and the latter 31 per cent. Without allowing for seasonal variation, a table is presented showing graphically the marked declines in stocks on hand expressed in percentages of estimated normal. Using 100 per cent as the estimated normal stocks this table indicates that supplies of wood pulp diminished from 141 on July 1 to 78 on November 1 and that total paper stocks were depleted from 144 to 118 during this period. Whereas the production of paper was held at normal last June, it was computed to be nine per cent above normal by October. On the other hand, wood pulp production during the last six months of 1921 declined from an estimated rating of ten per cent above normal in June to eight per cent below normal before the close of the year.

On the whole, industrial conditions are immeasurably brighter than they were at the outset of the year 1921. Despite the transportation congestion in recent months, for the six weeks' period ended December 9 carloadings were 24 per cent above the same period last year and 7 per cent above the corresponding period in 1920. The November wholesale trade, in and around New York, was 14 per cent over November, 1921 and 12 per cent over that month in 1920. Latest reported earnings of factory workers are nearly 7 per cent higher for last November than for November of the preceding year, substantial increases in the number of factory workers have taken place and New York employment agencies report a larger number of vacancies. Paper men are justified in feeling that these conditions constitute ample grounds for optimism in summing up prospects for the year to come.

Know Your Costs

Investigating fatal accidents is a duty of government. Human life is highly prized under the Anglo-Saxon theory and when it is snuffed out by other than natural causes the state must know why and place the responsibility where it properly belongs.

Accidents in business, however, are seldom investigated, and yet though human life is not involved human welfare surely is. It will be interesting not alone to know how commercial accidents have happened but to learn the underlying causes. Thus we may guard against new accidents.

We often smile over the old saying, "There is nothing certain but death and taxes." But is this true? There is nothing more certain than figures. We can say two and two are five, and base our calculations accordingly, but four is all that we can ever get truly from this addition. A large proportion of our commercial

accidents occur for the reason that the operators of a business enterprise are endeavoring to convince themselves and others that two and two make five. Estimates may be drawn up, but, unless these estimates provide for every possible cost and every reasonable emergency, the final result will not bear out the estimate.

When he was chairman of the Federal Trade Commission, the Hon. J. N. Hurley was firmly convinced that only a minor part of our industries knew what their production actually cost. Let us confine our observations to simple wholesale or retail establishments. Must we admit that failure to calculate operating costs has brought disaster to many enterprises of this type and has also brought surprises to those in control?

J. H. Tregoe, secretary of the National Association of Credit Men, said recently, "Were I asked what is the paramount duty of business operators, whether large or small, I should immediately respond, 'Know your costs.' Everything may seem to be going along gaily, with plenty of sales. The situation will change rapidly, however, when it is discovered that the profits were more than eaten up by the costs. 'Know your costs.' They are at the base of price movements.

The credit departments of the nation are not engaged in any more serious task than that of keeping trade lines free from disasters caused by deficient cost accounting methods.

Failures in 1922

The return to normalcy during 1922 is interestingly outlined in *Bradstreet's* review of the business failures for the past year. This report, which has just been published, says that "while 1922 was what might be termed a year of reconstruction and repair after the storms of 1920 and 1921, a large, in fact record, number of enterprises evidently proved to be beyond saving, and the past year, the third since the bursting of the boom of 1919, will very probably hold for some years to come the distinction of having seen the greatest number of casualties and the second largest total of future damage in the country's history. That the failure tide was inclined to ebb was proved early in 1922 by the rapid decline in number from the peak month of January, but it was not until September that the monthly totals fell behind the like month of 1921. This decrease was significant, however, in view of the damage to industry and the delay of fall trade caused by the scarcity of fuel and the paralyzing of transportation growing out of the coal and railway shopmen's strikes. It seems entirely probable that a great deal of unnecessary loss to farmers, manufacturers and merchants and a great many failures might have been saved if these two strikes had been avoided. The later fall months showed a continuance of the decrease from the like periods of 1921 noted in September, and the December totals of failures and liabilities were relatively small for a usual clean-up period. The decline in liabilities from 1921 was evidence that the more urgent liquidation of the concerns doomed to failure had been partially completed in the earlier year. In this respect, the course of liquidation after panic and depression ran true to previous experience. It is true that we did not have the old-time acute panic and currency scarcity in 1920, but the after-liquidation, first of large concerns and banks, and later of a large number of smaller traders, was in keeping with the records of other depressed years. For the avoidance of

the crashes that signalized the old-time American panic, the workings of the Federal Reserve banking system may be truly claimed to be chiefly responsible, and this system, despite the criticisms leveled at it, proved in 1920-22, as in 1914-15, the salvation of the business community as a whole

"Nineteen-twenty-two proved notable in some other respects than those just mentioned. It is true that a big toll was taken of American business in that year, but when the possibilities contained in the bursting of the boom are considered, and the vast accessions to American business life in the years from 1918 to 1920 are remembered, the fact that the rate of business mortality—the proportion of those failing to those in business, proved to be only slightly over 1 per cent—1.08 per cent to be exact—was in a high degree encouraging. This percentage was only a shade higher than in 1915 and 1898, the former year reflecting the damage caused by the outbreak of the great war, and the latter the practical completion of the liquidation following the twin panics of 1893 and 1896. There was also notable in the figures of assets and liabilities in 1922, proof that the percentage of business solvency in 1922 was not so great as in the two previous years, in other words, the strain was less acute and the failures of solvent concerns were less marked than in either 1921 or 1920.

"There were 22,400 failures reported to *Bradstreet's* for the full calendar year 1922, an increase of 11.9 per cent over 1921 and of 16.4 per cent over 1920, while as compared with the boom year 1919, the failures were four times as large. Liabilities for 1922, \$646,955,633, were 14 per cent smaller than in 1921, but 51 per cent in excess of those of 1920, over five times the liabilities of the boom year 1919, and 81 per cent in excess of the year 1914. The assets of 1922, \$364,602,438, proved to be only 56.3 per cent of the liabilities, whereas the proportion of assets in 1921 was 59 per cent, and in 1920 64.3 per cent. The number in business in 1922 in the United States was 2,074,617—a gain of 1.2 per cent over 1921, but as failures increased 11.9 per cent, the proportion of those failing to those in business rose to 1.08 per cent, as against ninety-seven hundredths of 1 per cent in 1921, forty-three hundredths of 1 per cent in 1920, and twenty-nine hundredths of 1 per cent in 1919—the latter the lowest percentage ever recorded since *Bradstreet's* compilations of failures were begun."

Geo M McKee Heads Algonquin Paper Co

OGDENSBURG, N. Y., January 8, 1923.—At the meeting of the directors of the Algonquin Paper Corporation held here George M. McKee of Montreal, was elected president and general manager, Frank A. Augsburg, vice-president, Edward I. Strong, secretary-treasurer, Frederick I. Regan, assistant manager, and William E. Westbrook, assistant-treasurer.

The Algonquin Paper Corporation capitalized at \$2,000,000, has recently taken over the stock of the Ogdensburg Paper Mills, Inc., which formerly operated the ground pulp plant in the Continental building.

I P Increases Wages at Livermore Falls

[FROM OUR REGULAR CORRESPONDENT]

LIVERMORE FALLS, January 8, 1923.—Announcement is made of an advance in wages in several of the departments of the International Paper Company at Livermore Falls. The increase ranges from two to seven cents an hour, and will apply to about 35 per cent of the employees. It is made at this time to place all men on a par with the company's big competitors.

Good Demand for Print Paper in October

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., January 8, 1923.—That the October conditions of the printing industry in the United States were of a healthy trend is indicated in the chart just issued by Jos. A. Borden, of the American Writing Paper Company's Department of General Service and compiled by the Research Division.

The chart, which graphs paper purchases as well as printing sales, is drawn from observations of field representatives of the Department of General Service from the Index Data Sheet issued by the Department of Research of the United Typotheta of America, and from statistics obtained from printers and paper merchants throughout the country.

October printing sales not only show a continuation of the upward trend which started in July, 1921, but represent a substantial increase over those of October, 1921.

The tonnage of paper sales, however, remained the same as for the month of September with the value of paper purchases slightly lower, a difference in value and tonnage which may be explained by the general increase in the price of paper which took place during October.

Examination of the chart for the previous four years shows that there is usually a slight decrease in the volume of printing sales during November. It is to be expected, therefore, that the next chart to be issued will show a temporary decrease or at least a temporary halting of the upward movement of this curve.

The volume of magazine advertising has fallen off during November in previous years and this year has been no exception to this general rule.

As pointed out in previous charts, however, the upward trend may be expected to continue for a number of months to come, possibly with temporary halts. This contention is favorably supported by recent developments reflecting directly the increase in business, such as figures on car loadings representing physical commodities going to market and bank clearings outside New York, which indicate roughly the value involved in business transactions. Car loadings are near the record figures of 1920, while outside bank clearings showed in October more than the usual seasonal expansion.

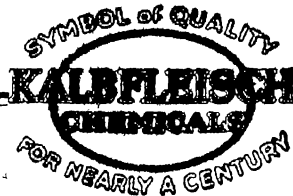
Bob Hewitt Buys Exchange Seat for \$95,000

J. Robert Hewitt, formerly of the *PAPER TRADE JOURNAL*, his numerous friends in the paper industry will be interested to learn, has purchased a seat on the New York Stock Exchange for \$95,000. Mr. Hewitt joined the editorial staff of the *PAPER TRADE JOURNAL* just after his graduation from Williams College in 1916. When the United States entered the war he enlisted in the navy and was rapidly promoted to the rank of ensign. At the conclusion of the war he returned to the *PAPER TRADE JOURNAL* to join the advertising department, which position he left about eight months ago to become connected with the banking house of Halle & Steglitz. The *PAPER TRADE JOURNAL* wishes Mr. Hewitt and we know we are joined in this wish by his many friends among the paper men, unlimited success in the new career in which he has so auspiciously started.

Parker-Young Co Buys Timber in Florida

[FROM OUR REGULAR CORRESPONDENT]

PORT ST. JOE, Fla., January 4, 1923.—The Parker-Young Company of Boston has bought 168,000 acres of timberland in Calhoun county for approximately \$1,000,000, officials of the Park Wood Lumber Company, operating branch of the Parker-Young Company, announced here today. A tract of 144,000 acres was bought from the Baycol Timber Company of Chicago, a subsidiary of the Continental and Commercial Trust & Savings Bank, Chicago, and smaller tracts from individuals. The footage of the timber is estimated at 300,000,000 and will require 10 years to cut.

**Exclusive****Manufacturers**

of
Ryan-Seaman Process

DRY SATIN WHITE

The Latest Development in The Coated Paper Industry

Casein
Crystal Boro Phosphate
(A solvent for casein)

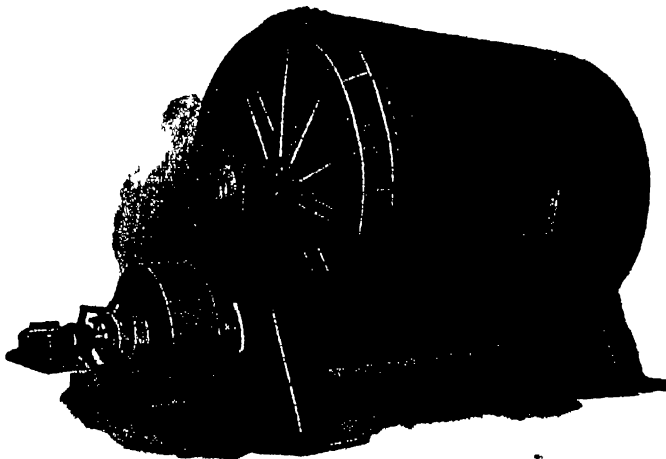
ALUM
Both Commercial and Iron Free
FOR PAPER MAKERS

Pulp Satin White
English China Clay

THE KALBFLEISCH CORPORATION

200 FIFTH AVENUE, NEW YORK, N. Y.

MIX YOUR DRY SATIN WHITE IN A CROSSLEY BALL MILL



We have been building ball mills
since 1879.

You are invited to benefit by our
extensive service. An oppor-
tunity of quoting on your require-
ments is solicited.

Write for full information and
prices.

THE CROSSLEY MACHINE COMPANY

TRENTON, N. J.

Section of the Technical Association of the Pulp and Paper Industry



AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY, IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES



Conducted by W.G. Mac NAUGHTON, Secretary

RECENT DEVELOPMENTS IN PAPER-MAKING*

By T. D. NUTTALL, C.B.E.

Amongst the most notable developments that have taken place during recent years has been the remarkable increase in the width of the paper machine and its speed. This has reference mainly to those machines making the cheaper qualities of paper from wood pulp, such as "news" and kraft papers.

"News" and kraft papers have a comparatively short life, and are not called upon to stand such exacting tests as are required of the better class papers made from rags, esparto, etc. In the case of "news" the main point is that it shall be sufficiently strong and evenly formed that it will successfully pass through the printing press without undue broke, and that it shall possess a surface which will show up plainly the illustrations which are becoming more and more an important feature in the daily press. Kraft and wrapping papers must be able to meet certain tests of strength and folding.

The opportunity for mass production on individual machines making "news" and kraft papers has been much greater than on machines making finer qualities, in the manufacture of which every care has to be taken lest an attempted increase in production brings in its train a corresponding decrease in quality.

On the finer qualities of paper the bulk of the work is done before it reaches the paper machine, and it is necessary to regard the paper machines proper as so many taps providing an outlet for all the work that has gone before. One tap more or less does not materially alter the total capital outlay, or the total labor involved in the production of the paper.

This argument has the greater weight when it is remembered that the cost of machines making fine papers is low compared with the rest of the mill equipment.

On these grounds, therefore, paper machines making fine papers have not made the same advance in width or in speed, and any increased output that is required has been obtained by an additional machine rather than by increased width or speed on individual machines.

Considerable advances have been made, nevertheless, on the machines making fine papers, the tendency being to increase the width rather than the speed. Such advances, however, have been slow because there has not been the same pressing economic necessity as has been the case with the cheaper papers.

In the case of the cheaper papers the situation is entirely different. The preparatory part of the paper mill is small, and the paper machine proper represents by far the largest and most expensive unit in the mill, and the unit on which the output of the

mill mainly depends. Even so, the illustration of the tap must not be lost sight of.

Many people are of opinion that there will come a point when machines will arrive at a width or speed beyond which, for economic reasons, it will not be profitable to go.

As regards the width, there is no mechanical reason why machines should not be made any width. It is simply a question of making the moving parts sufficiently large in diameter to resist deflection, journals sufficiently large to carry them, and gearing of such proportions as will drive them.

Some 12 months ago a discussion took place under the auspices of the Technical Section of the Canadian Papermakers' Association, the subject being a comparison between wide and high speed news print machines. Some very interesting statistics were presented, two widths of machine, 202 in. and 156 in., being compared and figures were given covering initial outlay, operating cost, power, labor, clothing, etc.

For the wide machine the following claims were made:

Its efficiency is equal to that of the narrow machine.

It is no more difficult to operate.

The machine clothing costs no more per ton of product.

Maintenance costs are less.

There is a saving in labor cost.

The initial cost of the wide machine per inch of wire is lower.

Radiation losses are reduced, the radiation points, such as cylinder ends, etc., being practically constant in the case of both the wide and the narrow machine.

Experiments carried out on a 100 in. machine some years ago showed that the radiation loss was about 30 per cent. On a 200 in. machine with double the output and practically the same radiation surface, a saving of 15 per cent in the steam used for drying may be expected. Power costs per ton of paper made were stated to be about the same.

The width of the "news" machine is governed by the sizes required by the printing press. In Canada and the U.S.A. this has been standardized at 73 in. Most of the "news" machines installed in recent years give 148-in. trim or two widths and two machines to give 22-in. or three widths made by Messrs. Chas. Walmsley & Co. of Bury, are expected to start up this year.

Figures from the 221-in. machines will no doubt assist in the controversy now going on between the advocates of great width as against high speed, and will probably enable a decision to be made as to whether the economic maximum width has now been reached.

It is in this connection significant to note that recent orders for

*Read at a General Conference of the Technical Section of the Papermakers' Association of Great Britain and Ireland.

"news" machines call for two "widths or 148-inch machine

The point which is most interesting to the practical papermaker is undoubtedly the increase in speed. The time when 100 ft per minute was a very high speed is still within the recollection of some of the older papermakers. A certain well-known papermaker, on being told that his machine was running at 100 ft per minute, declined to believe it until he had himself checked the speed with his watch.

In 1897 a number of well-known British papermakers made a tour of the United States, and on their return reported that they had seen machines making "news" at 500 ft, a statement which at that time it was on this side found difficult to believe. Yet today we are informed of machines running at 1,000 ft per minute, and are promised that 1,200 ft may be expected in the near future.

It is proposed to trace the various steps by means of which these high speeds have been attained.

There are four main problems to be faced in making paper at a high speed, namely:

- (1) Forming the sheet
- (2) Removing the water
- (3) Felting the fibers or pressing them tightly together while the sheet is in a moist condition
- (4) Feeding the paper through the machine

Forming the Sheet

Relatively speaking, the well or pond of pulp behind the slice is stationary, and the water and fibers are called upon suddenly to assume the velocity of the wire, the tendency being for the fibers to place themselves in line with the direction of flow. On slow running machines this tendency receives an early check as the water leaves the fibers quickly, and they are deposited in good formation on the wire whilst under the influence of the shake.

With the wire passing under it at increasing speeds, however, the water does not drop through so readily at normal elevation, and the influence of the flow remains sufficiently long as to disturb the formation of the sheet. To counteract this the wire was raised at the breast roll end so as to cause a declivity or pitch to enable the pulp to attain as early as possible the speed of the wire. Some ten years ago the pitch of the wire was raised to 14 ins. and even 18 ins. with this object.

With still higher speeds experience showed that even this pitch was not sufficient to prevent the malformation of the sheet, and another method of giving the impetus to the pulp was adopted, viz., to increase the depth of the pond behind the slice and by the influence of the head to spout it on the wire at an increased velocity.

The theoretical head that is required to spout out water at different velocities is approximately as follows:

Spouting Velocity Ft per minute	Head Inches
300	4
400	8
500	13
600	19
700	26
800	33
900	42
1,000	51
1,100	61
1,200	71

There is at the moment a difference of opinion as to which of these methods gives the best results, the deep pond or the inclined wire.

There is a machine making "news" at 1,000 ft per minute with a pond behind the slice 28 ins. deep and the wire pitched 36 ins. There is also a machine making a well-formed sheet of thin kraft papers at 850 ft per minute with a pond behind the slice of 48 ins. and a wire that has a slight rise from the breast roll to the boxes.

The advocates of the high-pitched wire intend to try a wire pitched 84 ins. or even 96 ins., and those of the deep pond propose to go up to 72 ins. It will be very interesting to see the result of the experiments of these two schools of thought on high speeds. Perhaps the best results will be obtained by a combination of the two methods.

The wire on the high-speed machine has generally no shake, but in those cases where the shake is retained stationary slices are used.

Removing the Water

When the sheet is properly formed on the wire the next thing is to remove the water, which has up to this point been an indispensable ally. The water is removed by gravity, by contact between the table rolls and the wire, by suction boxes, by the pressure of the couch rolls and press rolls, and by evaporation in the passage of the paper over the drying cylinders.

In order that gravity may be enabled to take its due part in the removal of that portion of the water which must be removed before the sheet can be couched, it has been found necessary with increasing speed to increase the length of the wire so that the pulp may remain on it sufficiently long for that purpose. Wires on the 1,000 ft per minute machines are now over 100 ft long.

In this connection it may be mentioned that the tension on wires of this length is very great, and they should be made of the finest bronze.

On high speed machines many of the breaks are caused by the wire seams cutting the paper as it passes through the couch rolls, and wire makers should devote their attention to making the wire without seam.

To relieve the tension on the wire, ball-bearings have been tried on the wire carrying or tube rolls. Experience has shown that tube rolls running on ball-bearings will not run as smoothly as on ordinary bearings, and on high speeds if a tube roll does not run smoothly it will whip and knock water through the sheet. Papermakers who have had experience of ball bearings on tube rolls now propose to leave them out on future machines. Tube rolls of 6 ins. to 9 ins. diameter are usual on the high-speed machines, and should be well balanced at the speed they have to run.

Six to eight suction boxes are required to distribute the suction space over a sufficiently large area. When the suction boxes are working well the couch rolls take out very little water. Their principal function is to felt the fibers and to drive the wire.

Felting the Fibres

This part of the work is done by the press rolls, which also remove a portion of the water. In the earliest paper machines only one set of press rolls was employed, but with increasing speeds more press rolls were found necessary, and on the high-speed machines at to day four sets of press rolls are often found.

On some machines the fourth press was thrown out owing to troubles caused by the air getting between the felt and the paper, causing the paper to blister and wrinkle and to stick to the felt. This blowing and wrinkling can be avoided by a short run from the take off felt to the nip, so that the paper does not lie on the felt previous to the nip, but strikes the press roll first as it enters the nip, allowing all air to escape.

The reversing press on the high speed machines is now done away with, the paper running straight through all the presses.

Machines are now being planned with six sets of press rolls, on the assumption that a better and stronger paper can be obtained by thoroughly pressing the fibers together whilst in a moist condition. In addition there is also a certain economy in drying, and there is an opinion in certain quarters that in order to obtain additional output the proper thing to do is to add more press rolls rather than more drying cylinders.

Without doubt the most important development on that part of the paper machine which takes out the water has been the perfecting during recent years of the suction roll. Ever since the building

of the first Fourdrinier machine inventors have been busy endeavoring to produce a revolving suction box, in the first instance to obviate the friction of the wire passing over the flat boxes. During the past century innumerable patents were taken out, some of which were fairly successful. Many of them failed because they had pockets alternately open to the air and to the influence of the vacuum.

A constant non-pulsating vacuum is essential, and this was not obtained until the suction roll was placed in the position of the bottom couch roll.

The suction roll in this position consists of a revolving perforated shell, inside of which is a stationary suction box with radial adjustment whereby the suction space can be so adjusted that it corresponds to that section of the periphery which is covered by the paper. The suction space varies in width from 5 ins. to 8 ins., according to the diameter of the roll.

The first suction couch rolls were not entirely successful, for the one reason that no means were provided to regulate the pressure between the packing of the fixed member (the suction box) and the inner surface of the rotating member (the revolving perforated shell). Means are now provided to regulate this pressure by an adjustable stopper, the invention of Mr. W. H. Millsbaugh and this step, overlooked by previous inventors, marks the real commencement of successful suction roll construction.

The next step was to make the bottom press roll into a suction roll, and this application of the revolving suction roll will probably have very far-reaching effects. The suction press roll removes the well of water in the press roll nip, removes air from the felt and from between the felt and the paper, holds the paper firmly to the felt, preventing the top roll from picking it off and thus prevents breaks. It is claimed that less pressure is required to remove a given amount of water owing to the partial vacuum maintained at the lower roll.

The above features make possible a reliable self-feeding machine and have been taken advantage of in the design of the first machine to run at 1,000 ft. per minute. This machine was built by the Bagley and Sewall Company, and is running at the mills of the Wausau Sulphate Fibre Company, Mosinee, Wisconsin. When the writer saw the machine on September 11, 1920, it was running steadily at 850 ft. per minute and seven weeks later, on October 23, 1920, it attained 1,000 ft., thus creating a world's record. The sheet made was a thin sheet of pure kraft paper substance about 13 lbs. D.C. All presses are omitted with the exception of one the suction press. An overfelt is worked with the top press roll, inside of which is placed an inverted suction transfer roll which causes the paper to follow the overfelt to the first drying cylinder, on which it is pressed and by the dryer removed from the felt. This arrangement has eliminated three presses, with felts, felt rolls, doctors, etc., and the attendant outlay, maintenance and liability to breaks.

The moisture content on reaching the first dryer is 68 per cent, only 2 per cent more than on an adjacent machine making similar papers of the same substance which has three more presses than the high-speed machine. This points to the conclusion that additional presses are only necessary where, on heavier sheets, it is necessary to close or felt the sheet whilst in a wet condition.

Regarding the power required to produce the vacuum it is claimed that on most papers the heat saved in the drying of the paper more than compensates for the additional power required.

Speaking generally of suction rolls open free stock, little beaten and light weights do not show so great a saving in steam as is the case with close or "greasy" and well beaten stocks.

The suction roll on the wire enables the machine man to work much more water through the strainers and on to the wire and keeps the wires cleaner.

The retention of china clay or filling is an important matter. Most of the clay is lost in the transit of the web over the wire, and the loss is due to sudden drainage of the water, which by

erosion and the action of gravity carries the suspended filling and fine fibers with it. The table rolls, suction boxes and couch rolls, by causing sudden drainage, bring about this loss of filling material.

Assuming that the nip at the couch roll is $\frac{1}{8}$ in. wide (it is probably less rather than more), an average couch roll exerts a pressure of 500 to 600 lbs. per square inch at this point, and literally squirts the water and filling with it out of the sheet.

A suction roll removes the water quite as effectively from loaded papers with a pressure of 7 to 8 lbs. per square inch (the difference between the external and internal pressure (the action taking place gradually as the paper passes over 5 to 8 inches of the suction roll's circumference), that portion of it which represents the width of the vacuum box inside the mantle).

The water is mostly absorbed by the large volume of air passing through the web, a point which has only been appreciated since the introduction and general use of suction rolls.

The coarser the mesh of the wire the swifter is the drainage at each point, and consequently the more filling is lost. It is claimed that the suction roll permits the use of finer mesh wires with the same or longer life than coarse wire with couch rolls, and that as a consequence more filling can be retained.

Tests made on a "news" machine, running at 450 ft. per minute, showed ash from couch roll papers to be 15 per cent of the bone dry weight, whilst the ash from suction rolls papers was 17 per cent. Both sheets were made from the same pulp and filling with the same finish, and handled on the same wire felts and weights on press rolls. Whether this holds good on all substances and qualities there is not sufficient data to determine, but it is worthy of note that the suction couch roll is in universal use in the U. S. A. on machines making book or printing paper. "News" machines equipped with suction couch and press rolls are now running at 750 ft. per minute, and are expected to reach the 1,000-ft. mark before long.

On colored papers where pigments are used, a two-sided effect cannot be avoided, but where anilines are used this difficulty is largely minimized by the use of a dandy, and by reducing the vacuum as much as possible.

Feeding Through the Machine

There comes a point when the speed of the machine is so great that it is impossible to feed through by hand, and it has been necessary to invent automatic appliances to overcome this difficulty.

Foremost among these are the inventions of Mr. Elmer Pope, who automatically feeds through from the couch roll to the reel by means of compressed air. The usual feeding strip is formed on the wire and is blown from the top couch and press rolls on to the succeeding felt by a double jet of compressed air at a pressure of about 80 lbs. per square inch. It will be recognized that the air pressure, size of nozzle, direction, etc., must bear a definite relation to the width of the feeding strip.

The drying cylinders have been arranged directly above one another, partly to help the automatic feed and partly to give a long draw from the top to the bottom dryer, giving more open space for the moisture to escape. This arrangement assists the feeding through and drying, but as it necessitates an intermediate gear or jockey pinion there is considerable back lash, at the high speeds outweighing the advantages.

Probably the most difficult problem was to feed from the last cylinder into the calender nip. An attempt was made in the first instance to abolish the cylinders and to obtain the finish by woolen felts and cylinder press rolls, also to run cylinders one on top of the other. The calender still remains, however, and the paper is blown from the last cylinder to the calender nip along ingeniously contrived guide plates.

Another device for feeding through the dryers is the Sheahan rope feed, which consists of endless ropes running in grooves, turned in the front end of the drying cylinder face.

The difficult point of taking from one section to the other has been successfully overcome. Drum reels are generally used, and in order to overcome the difficulty of changing reels, Mr. Pope has invented a reel on which the paper is split by a jet of compressed air, and the reel shells changed from a pair of temporary bearings to the working bearings by mechanical means, practically eliminating broke.

The calm transfer of the paper at the high speed from one reel shell to another is very striking to the spectator, who would naturally expect some difficulty at this point.

Considerable improvements in the paper machine drive have been found necessary to allow the fragile web of paper to be transferred from section to section of the machine at these high speeds without undue broke. As is well known, the web of paper alters in length and width during its passage over the machine. On the one hand we have greasproof or imitation parchment made from well hydrated stock which shrinks in width and increases in length during the whole of its journey from the couch roll to the reel. On the other hand we have "news" which increases in length during its passage through the wet presses and afterwards shrinks in the drying process. Differences in thickness of the same class of paper also make necessary considerable alteration in the draw.

To meet these changes of expansion and contraction it is necessary to provide means whereby the machine tender can adjust the speeds of the different sections of the machine relatively to each other, so that the paper may not only be transferred from one section to another without breaking, but that it may follow its natural expansion or contraction without being unduly stressed.

In the earliest days the machine drive was an ordinary drive with straight pulleys, with the first press shaft as the main shaft, and the speed variation between the sections was obtained by lapping the pulleys by hand with pieces of felt, a crude and dangerous practice.

Cone pulleys and belt shifting gear gradually became the general practice but left room for improvement as the wide and slow running belts were subjected to great wear and tear from their contact with the strap forks.

A distinct advance was made by the adoption of a high-speed master shaft, called the "Marshall" driving train, by means of which the speed of any section of the machine can be adjusted without disturbing that of any other section. The "master" or line shaft runs parallel to the centre line of the machine, and each section of the machine is driven from it through a pair of reduction gears, light belts on conical pulleys connecting the line shaft and the pinion shafts. Friction clutches were placed in the conical pulleys for stopping and starting each section of the machine operated from the front side. This drive became very popular as the machine sections were bound together more firmly than ever before owing to the driving power and speed adjustment for all the sections coming from one source, the master shaft.

Many other forms of reduction gear drive came into use, most of them having for their object the substitution of spur gears for bevels or the abolition of the troublesome friction clutches.

The advent of the wide and high speed "news" machine began to make trouble for all these types of drive. There is a fixed maximum safe speed for driving belts about 5,000 ft. per minute, and as machines were speeded up the ratio between the belt speed and the paper speed gradually diminished. In addition, the moving parts on the machine became larger in diameter and heavier in weight. This called for gears of very generous proportions to withstand the greater tooth pressure necessary and to provide satisfactory wearing co-efficients.

Considerations of cost, perhaps, made the machine builder too optimistic on these points with the result that the "Marshall" drive gradually acquired a reputation for excessive wear and tear and maintenance costs.

A return has been made to the original direct drive, as with the higher paper speeds and by the use of large diameter pulleys a

satisfactory belt speed can be obtained, giving the required power with a reasonable width of belt. In this modern form of flat drive the line or master shaft is replaced by a series of countershafts connected by belts or ropes, which give a similar result, but not quite as satisfactory on account of the slip which cannot be entirely eliminated from belt and rope drives.

This return to the direct drive was made not only on high speed "news" machines, but in some cases on machines making printings and writings of greatly varying substances. It was found that with larger diameter pulleys it was not possible to obtain sufficient speed variation for the wide ranges of substance without using pulleys of abnormal width, and in such papers as require great variations between the sections, a return has been made to the "Marshall" or some other form of reduction drive on which small diameter pulleys can be used.

Now the electrician has come forward with separate or individual motor drives to the machine sections.

Some 15 years ago independent motors were installed to drive each machine section, but without any common control. Varying conditions on the machine disturbed the mutual speed relationship, and the result was unsatisfactory. Since that time great improvements have been made and many arrangements are under consideration both for altering and direct current motors, the principal ones being the Harland Interlock, General Electric, American, Westinghouse, Metropolitan-Vickers, British Thomson-Houston.

A singular coincidence is to be found in the fact that just as the master shaft of the "Marshall" drive ties the section together, so in the case of the "Harland Interlock" drive the motors are tied together by a similar shaft which transmits no power, but simply acts as a speed constant.

When the individual electrical drive has been thoroughly worked out it will possess many advantages. It will eliminate belts and ropes, cone pulleys, belt guides and friction clutches (the motors being connected to the machine sections through a pair of reduction gears) and losses due to the slipping of belts. It occupies less space and in the case of new mills will bring about a certain economy in the first cost of the buildings, basement drives being no longer necessary.

Accessibility is a feature, as the back of the machine may be approached almost as freely as the front.

The speed control on the entire machine is effected by one handle, and the control panel is provided with a starter by means of which the whole machine can be started up as a single unit, or any individual motor can be started or varied in speed independently of any other.

What is the Maximum Economic Speed in an English Mill?

The high-speed machines which have been mentioned run under the most favorable conditions. The ground wood and sulphite are prepared on the spot and used immediately. In the newer mills the sulphite is not even taken up in laps, but is pumped direct to the machine chest and blended in the required proportions by means of consistency regulators, such as the Trimbey.

Any irregularities in the mechanical pulp mill can at once be corrected and a more uniform pulp obtained, which is not the case in an English mill which uses of necessity imported pulp of many makes.

A further question is that of loading. The higher the speed the less clay can be carried.

The relative prices of pulp and china clay have in this country a bearing on the question, in times of dear pulp the tendency being slower speeds and greater percentage of loading, and the reverse when pulp is cheap.

On the question of economic running speed, it would appear that this must be left to the joint consideration of the commercial and technical advisers in the mill management. The working conditions in any particular mill and the standard quality required are limiting factors.

PAPER MAKING WIRES*

BY V. BOUYER, MANAGER OF THE WIRE CLOTH FACTORY OF RAI-TILLIÈRES FRANCE

The main function of wire cloth in the paper industry can be briefly described by stating that the "wire" of a continuous paper machine, which is the form under which wire cloth is most frequently used in the industry, acts as a continuous screen which allows the pulp to drain after the millions of fibers of which the latter is composed have been felted together into what will become a sheet of paper on drying.

Though the methods of using the wires may differ quite widely (wires for hand moulds, for cylinder machines, for fourdrinier machines with or without dryer wires), the wires themselves are all pretty much the same, though the different uses to which they are put require somewhat different properties.

A study of wire cloth should certainly form part of the education of the paper making engineer, for he will frequently have to turn his attention to this part of the paper machine, either to choose the type which is best suited to his purpose, or to watch it and prevent or remedy the numerous accidents or defects against which he is liable to come up.

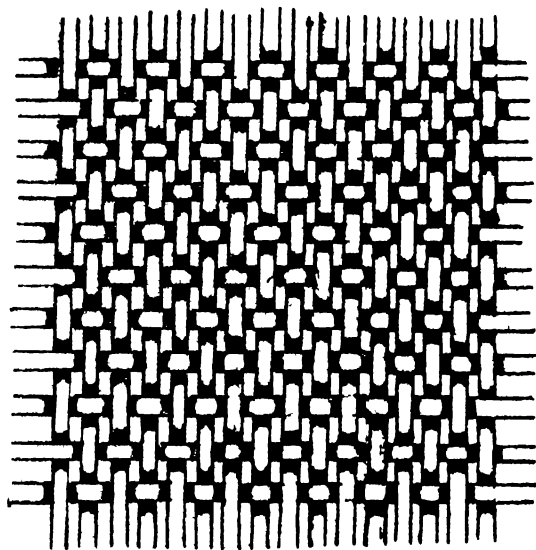
In order to make this article as clear as possible, we shall divide it into four parts:

- (1) Study of the manufacture of wire cloth, more particularly of that which is used in paper making.
- (2) Different kinds of weaves used for paper making wires.
- (3) Selection of wire according to the grade of paper.
- (4) Troubles, accidents and causes of deterioration.

We shall also consider dandy rolls, the manufacture and use of which are very closely related to those of the wires proper.

Manufacture of Wire Cloth

The methods used for weaving wire cloth are identical with those used for textile weaving. If a metal is ductile that is, if it



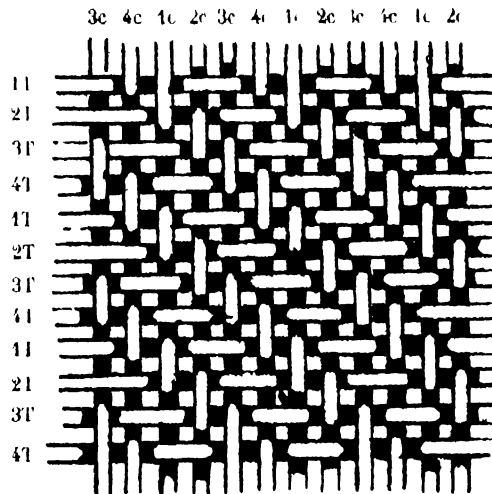
PLAIN WEAVE

can be drawn into a wire, this metal wire can be woven just as readily as cotton, flax, wool, silk, etc. In practice, the only metals which are woven are copper and its numerous alloys, and certain grades of steel (hammer hardened, annealed, galvanized, or tinned).

Wire cloths are put to a host of different uses, either domestic (collanders, screen doors and window screens, keeping flies off

food, etc.) or industrial (milling, coloring matters, lime, cement, coal classifiers, chemicals, reinforced glass, and finally paper making).

Wire cloth for paper making are put out in such a variety of thickness and grades and must have such characteristic properties that their manufacture is entirely different from that of other wire cloth which is generally known as "sieve-making." And moreover the methods of weaving are also differentiated by the fact that paper



TWILL

making wires are made in widths of two, three, four, or five meters, and even more, while wires for sieve making are seldom more than one meter wide.

For technical reasons, which will be given further on, nearly all paper making wires are made from copper alloys, usually bronze or brass. In exceptional cases these alloys are coated with tin or with lead to protect them against the action of chemicals.

Wire cloths are classed according to the manner in which the wire threads are intertwined or as it is usually put, according to the "weave." Some weaves are the same as are used in making textile fabrics: plain, twill, repp. Others are used exclusively in weaving wire cloth: double warp (plain and crossed), triple warp, laid.

In weaving there are two sets of threads or wires in the present instance: the warp and the shuttle or filler. The warp wires are those which run in the direction of the cloth and go from one end of it to the other, while the shuttle wires are those which go from side to side.

PLAIN WEAVE—In the plain weave warp wire passes alternately over and under successive shuttle wires and the next warp wire does likewise but it passes over under the wire over which the preceding warp wire has passed, and vice versa. It follows that all the shuttle wires work in exactly the same manner, passing alternately over and under successive warp wires and also each shuttle wire passes under the warp wire over which the preceding wire has passed and vice versa.

In the plain weave, which we shall find recurring several times as far as the method of working the wires is concerned, alternate warp wires all work in the same manner, passing over and under the same shuttle wires. If the warp wires were all numbered, the even wires would pass simultaneously over the same wires, while the odd ones would all pass under these same wires, and vice-versa.

* (Lecture given to the students at the French School of Paper Making, Grenoble, France, during the year 1920-1921.) (Translated from *La Papeterie* XLIII, September 10 and 25, and October 10, 1921, by A. Papineau-Couture.)

When the cloth is woven in this fashion, with single wires, and when the spaces between all the warp wires are equal, we have a plain weave. It is the simplest, and also the most widely used in paper making.

TWILL CLOTH—Suppose we number the warp wires in groups of four, 1C, 2C, 3C, etc., and the shuttle wires 1T, 2T, etc. Then the wires are woven as follows:

1C passes over 1T and 2T, under 3T and 4T and then for the second set of four shuttle wires over 1T and 2T and under 3T and 4T, and so on.

2C goes over 2T and 3T, then under 4T and 1T, and then again for the next set over 2T and 3T and under 4T and 1T.

3C goes over 3T and 4T under 1T and 2T and so on.

4C goes over 4T and 1T and under 2T and 3T, and so on.

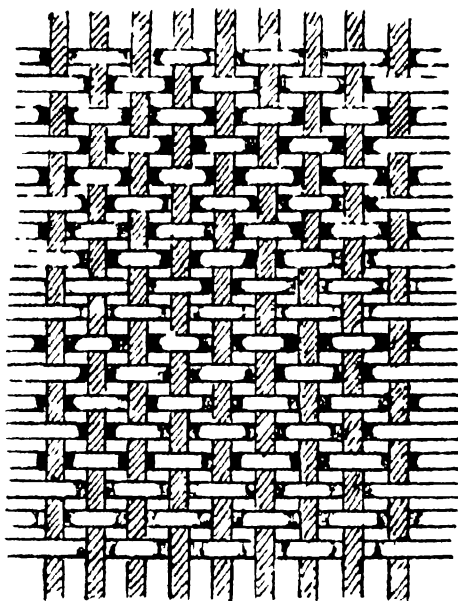
If now we examine the shuttle wires, we shall see that they work in exactly the same manner as the warp wires. Each wire, whether warp or shuttle, passes over two consecutive wires, then under two wires, over the next two, etc. A given wire works in the same manner as the preceding one, except that it is one wire behind, that is, if the first one passes over the second and third of a set (assuming the wires to be numbered as above) the next one passes over the third and fourth.

Owing to the peculiar weave of twill cloth, it has a diagonal which may go down from left to right or from right to left according as the warp wires (in the preceding explanation) were numbered from left to right or from right to left.

A peculiarity of this cloth is that it is unsymmetrical and easily deformable, the diagonal stretching out and the meshes assuming a lozenge shape. This drawback prevents it from being used as such for fourdrinier wires.

This method of intertwining the warp and shuttle threads is known as twill weave.

USE OF MULTIPLE STRAND WIRES—Suppose we have a cloth made



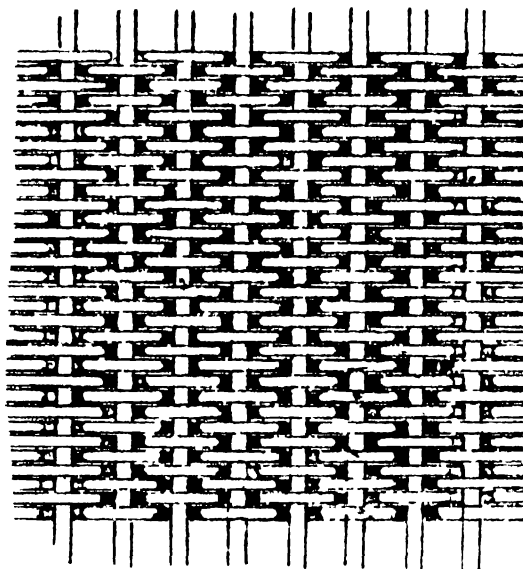
MULTIPLE STRAND

with a plain weave, in which the spaces between the warp wires are equal, but the warp wires themselves consist of several strands.

The multiple strand wire consists of five or six strands twisted around a core. For a long time a textile core was considered preferable to a metal core, as the surrounding wires would lie closer together against the core, leaving practically no empty spaces. But as a matter of fact such a wire is less likely to keep its shape after weaving, owing to the softness of the core it is crushed by the

beating of the reed, and the openings between the strands are made smaller, moreover, such a wire is not as strong as one with a metal core, so that the latter is now preferred.

At first it would seem that theoretically a cable should be built up of seven strands of equal diameter, a central one and six peripheral ones. But if the section of such a cable is examined it will be found that the sections of the peripheral wires are elliptical instead of circular, so that the core must be chosen of larger diameter to make them lie closer together. If only five peripheral wires



PLAIN REPP

were used the core should be smaller. In practice, a multiple strand wire having either five or six peripheral strands and a core of the same diameter gives a smooth surface and sufficient resistance to deformation on weaving, so that in choosing between the two the main consideration is the strength of the strand of wire.

Sometimes we can have both the warp and shuttle wires of a plain weave cloth consist of multiple strand wires.

PLAIN REPP—When the warp wires of a plain weave are placed at intervals equal to about three or four times the diameter of the wire and the shuttle wires are brought right up against one another so that there is no space between them, we have a repp cloth. This type of cloth has no open meshes and is quite opaque.

TWILL REPP—Similarly, if we take a twill weave but bring all the shuttle wires right up against one another so there is no space between them, we have a twill repp, in which there are no open meshes.

PLAIN DOUBLE WARP—Suppose we have a plain weave cloth in which each warp thread is replaced by two finer threads, parallel to each other and both working in exactly the same manner along their whole length. There is no space between these two wires, the spaces being between each pair of warp wires. It is called plain double warp, to distinguish it from the next type of cloth. The warp wires are much finer than the shuttle wires.

CROSSED DOUBLE WARP—Suppose we have a plain weave cloth in which the warp wires are joined together, two by two, so as to close up the space which would normally exist between them as follows. If we number the wires, one, two, three, four, five, etc., there will be no space between one, two, between three, four, between five, six, etc., but there will still be a space between two, three, between four, five, between six, seven, etc. In this cloth the warp wires are smaller than in the usual plain weave cloth, so that they are very much smaller than the shuttle wires. Cloth woven in

this manner is very similar in appearance to cloth having a plain double warp

TRIPLE WARP.—Suppose that in a plain weave cloth the warp wires are joined together, three by three, so as to close up the spaces which would normally exist between them. If we number the warp wires one, two, three, four, five, there would be no open mesh between one, two, three, four, five, six, seven, eight, nine, but the open meshes would remain between three, four, six, seven, nine, 10. Just as in the case of the double warp cloths, the warp wires are smaller than in an ordinary plain weave cloth so that they are very much smaller than the shute wires. On examining this cloth it will be seen that the meshes are the same as for a plain weave in which each warp wire has been replaced by a set of three finer wires, but it should be noted that each one of these finer wires works independently as if it were part of a plain weave in which the warp wires had been disturbed, as stated above. The designation of *triple warp* is self-explanatory.

ZIG-ZAG TWILL.—We have seen that a twill weave is not symmetrical, and that consequently a twill wire cannot be used on a continuous paper machine, as it would be deformed diagonally. A twill weave, however, presents certain advantages over a plain weave, to which we shall have occasion to refer a little further on, so that attempts were made to retain the advantages due to the peculiar arrangement of the warp wires and at the same time to obtain a symmetrical weave. The following modification was adopted. Let the warp wires be numbered in sets of four: one, two, three, four, one, two, three, four.

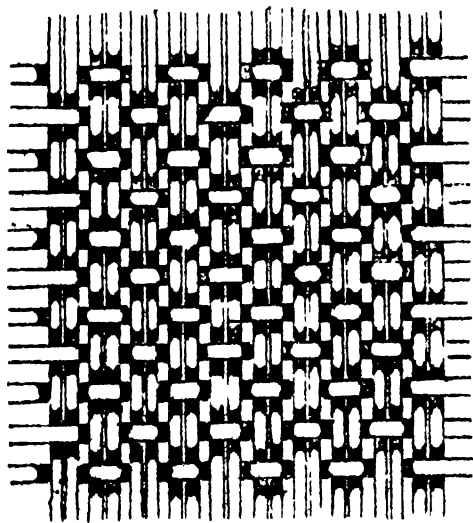
1C passes over 1T and 2T, as in twill

2C passes over 2T and 3T, as in twill

3C passes over 4T and 1T, contrary to twill,

4C passes over 3T and 4T, contrary to twill

and so on. Each warp wire passes successively over two shute wires and then under the two following; the warp works the same as in twill, and therefore possesses the same qualities. But the shute wires work quite differently: one shute wire works the same as in twill, that is over two under two over two, and so on, while the next shute wire passes over one under two over one, just

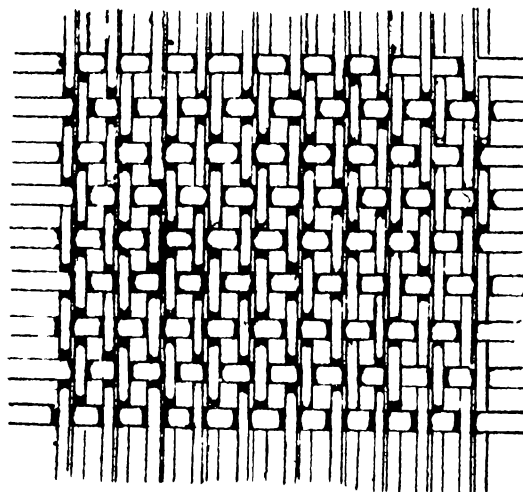


PLAIN DOUBLE WARP

as in plain weave. The warp wires 1C and 2C begin a 45° diagonal which goes down from left to right, but the wires 3C and 4C form the beginning of a diagonal from right to left. The diagonal is thus broken and goes alternately from left to right and from right to left, which makes the cloth symmetrical so that it remains square when under tension.

LAI D CLOTH.—With this cloth we must obtain an effect of intersecting lines known as a laid effect. In a laid paper there are

a series of lines or marks, spaced 12 to 30 mm apart, which are known as chain lines, while at right angles to these there are a large number of other lines or marks, less distinct than the former, in which the space between two lines or marks is practically the same as the width of the line itself. The latter are known as laid lines. In the wire cloth, the threads that are farther apart consist of two wires each which are twisted around each other in such a manner as to imprison a transverse wire between them at each half turn. The size of the latter depends on the distance be-



CROSSED DOUBLE WARP

tween the former; being smaller the closer the twisted wires are placed.

Suppose we have a plain weave cloth in which the warp is extremely fine as compared with the shute. At intervals of about 27 mm two fine warp wires are replaced by two wires of approximately the same size as the shute which are placed close to each other so that there is no open mesh between them. The effect is the same as with a laid wire; the differences being that the two heavier warp wires are placed side by side instead of being twisted around each other and that the shute wires are held by the fine warp wires while in the laid wire they are free in the space between the twisted wires.

Classifying Wires by Numbers

We have just seen how wires are classed according to the manner in which they are woven. Each of the above wires can be made with different sized meshes according to the purpose for which it is to be used and for mesh there is a certain size of wire which should be used to ensure that the finished cloth may have the required rigidity. The size of the mesh, which is known as the 'number' of the wire cloth is expressed by giving the number of meshes between the warp wires in one inch. This practice is so old that it would be very hard to supersede, and moreover the numbers which it gives are more convenient than those which would be obtained by taking metric measures instead of the inch, the decimeter giving numbers which would be too large, while the numbers given by the centimeter would be too close together.

However the present method has a serious drawback, owing to the varying length of the inch according to the country where it is used. There is

The French inch, which measures 27.7 mm,

The Rhine inch, which measures 27 mm,

The average inch, which measures 27.5 mm, which was adopted because it is easier to estimate half a millimeter than seven-tenths of a millimeter,

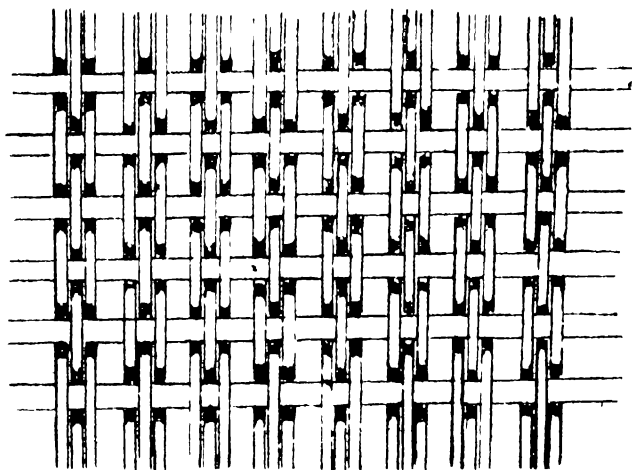
The English inch, which measures 25.4 mm, and on which are based all measurements in English-speaking countries.

When ordering a wire by number it is therefore necessary to state whether French mesh or English mesh is meant.

To determine the number of a wire one need merely count the number of spaces in a length of 27.5 mm in a direction at right angles to the warp wires which may be done either with the help of a 27.5 mm measure or, better, with a thread counter adjusted to 0.25 inch, so that the number of spaces found is multiplied by four. This latter operation is not quite as simple as might appear at first sight, for if the thread counter does not lie quite flat on the wire the observed length may be greater than that for which the instrument is set unless it be observed quite squarely. The proper manner of looking through the lens is easily acquired with practice and the best way of acquiring this practice is to first count the number of meshes in a full inch and then determine them in a length of a quarter of an inch by means of a thread counter.

It should be noted that in plain twill and zigzag cloth the number of the wire is equal to the number of warp wires per inch but in double warp and triple warp there are twice and three times as many wires as spaces. To eliminate all chances of error, the number of wires is frequently indicated after the number of meshes for instance No. 55/110 double warp or No. 60/180 triple warp. Cloths are thus designated by giving their number and the kind of weave as No. 65 plain No. 28 multiple strand, No. 180 twill, etc.

From the foregoing explanation it is seen that the shuttle wires are never counted. This is done only in sieve making where the cloths are generally woven with a square mesh but paper making wires cannot be made with a square mesh as will be explained further on. The number of shuttle wires necessarily depends on the strength of the wires used. First of all the shuttle is always coarser than the warp and secondly in the weaving process the warp wires are cramped by the action of the loom while the shuttle wires are cramped by the resistance of the warp wires due to the tension under which they are. So that if the shuttle wires were too close together the effort required to crimp them would be too great and would deteriorate the warp. In practice for plain weaves the number of shuttle wires is generally about 65 per cent to 80 per cent of the number of warp wires. An exception is made in the case of repp



PLAIN WARP

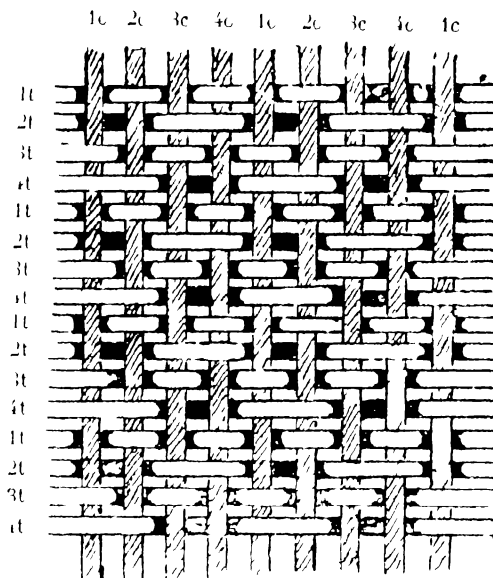
cloth, here the number of shuttle wires is also given as it is as important as the number of warp wires, for instance a No. 18/100 repp is one having 18 warp and 100 shuttle wires per inch.

For laid cloth the distance between the chain wires and the number of laid wires per inch are given, as 26 mm 28 laid.

Function of the Wires in the Cloth

WARP—On examining the method of working of a Fourdrinier wire, we shall see that it is subjected to several influences

(1) First of all, it is under a high tension, especially in front of the couch roll, as it is the latter that drives the wire and must overcome (a) the inertia and friction of all the rolls, including the breast roll which is quite heavy, (b) the adherence of the wire against the suction boxes, caused by the high vacuum which is used, (c) the brake action of the deckle straps. This tension is very far from negligible, for a wire two meters wide running at 60 meters a minute transmits 112 horse power and when it runs at 120 meters it transmits 30 horse-power, the power increasing more rapidly than the speed.



ZIGZAG TWILL WEAVE

(2) The warp is sometimes straight, sometimes convex (breast and couch rolls) and sometimes concave (stretch roll), so that it is alternately bent in opposite directions. This is very severe service for a wire and the latter must have certain qualities to be able to stand up for any length of time.

(3) If we feel the wire between our fingers it will be noticed that we touch only the warp. During the weaving the warp wires are bent much more than the shuttle, so that all the wear of the wire on the parts of the machine that are stationary (or that do not turn properly) comes on the bends in the warp wires, and on them only.

(4) The wire is also attacked chemically by the pulps and by the acids used for cleaning the wires.

(5) If to the four preceding factors we add the fact that the weaving requires the use of a wire which can bend rather sharply without breaking at the bends, which is obtained only if the outside of the bend can stretch readily, we see that the warp wires must possess the following properties:

High tensile strength,

Considerable stretch,

Running on the machine must cause a minimum of hardening of the wire,

High resistance to wear through friction,

High resistance to the action of the chemicals used in paper making.

After numerous experiments, it was found that the alloy which possessed the above qualities to the highest degree was phosphor bronze containing from 92 per cent to 95 per cent of copper, and which is almost universally used on the European continent. Its average tensile strength is about 40 to 45 kilos per square millimeter (about 55,000 to 62,000 pounds per sq in.) and its elonga-

tion is 45 per cent to 60 per cent when annealed under the conditions best suited for its use for weaving.

SHUTE—When the wire is running on the machine, the tension to which the warp is subjected tends to make the shute wires bend around the warp wires more than was done during the weaving. If the tension is at all uneven across the width of the cloth, it will tend to sag and then gather together. To prevent this very serious accident, the shute is chosen somewhat heavier than the warp. The shute cannot work into the warp and bend around it unless it is softer than the warp, and it is essential that these two sets of wires should bend around one another to a certain extent to prevent the cloth from going askew on the paper machine as would inevitably happen if the shute did not work into the bends of the warp. These two qualities of stiffness (partly obtained from the diameter of the wire) and softness are obtained by the use of a brass containing 67 per cent to 72 per cent of copper and 33 per cent to 28 per cent

of zinc, which is properly annealed after drawing so as to give it the required strength and elongation. These alloys are the ones generally used.

It is a mistake to think that a better wire would be obtained by using a bronze shute for a pl in weave, which is the one most widely used for Fourdrinier wires.

The stiffness of the shute would be very hard on the warp which would necessarily have to make sharper bends and would consequently wear out more quickly.

The use of a bronze shute must therefore be confined to the very exceptional cases where the cloth is not subject to the drawbacks mentioned above. In triple warp cloth for instance a somewhat stiffer shute is used as owing to the nature of the weave the cloth has a tendency to form long undulations which would interfere with its proper working.

(To be continued)

THE PAPER INDUSTRY

(BUMAZHNAIA PROMYSHLENOST')

A most interesting magazine is the Paper Industry (Bumazhnaya Promyshlennost') in Origin of the Technical-Economical Council of the Paper Industry Congresses published at Moscow, Russia, of which vol. I, No. 1 has been received from the Secretary's office through the courtesy of Mr. E. R. Minevitch, the American representative.

The program is given on the title page and on the first article entitled "Technical-Economical Council: its Beginnings and Problems." This organization has arisen from a workmen's Council (Soviet) and has as its aims: (1) To maintain an experimental station; (2) To publish scientific books on the paper industry and the magazine "The Paper Industry"; (3) To maintain a technical library; (4) To give in connection with the technical faculty of the Karl Marx Political Economy Institute courses in the paper industry and to take care of the Paper Industry Exposition.

The second article is by I. Bobrov on "Studies on Mechanical Paper Technology." This is a study of the questions of energy and power consumption in the various portions of the pulp and paper mill. It is entirely theoretical in character, no practical data being given.

I. P. Zherebov contributes an article on "The Influence of Sunlight upon the Vegetable Paper Sizes" in which he reviews previous work and discusses his own experiments on the effect of sunlight upon vegetable colors as they are used or formed in vegetable sizings.

N. D. Ivanov discusses the "Composition of Rosin" and gives the results of his own analyses. He also discusses the coagulation and filtration of sizings.

I. I. Svanov contributes an article on "Sulphate Waste Liquors" in which he gives analyses of the liquors and points out the destructive power of such liquors on the flora and fauna of the rivers into which these liquors are discharged.

J. G. Chincin reviews P. Krawany's book on "Internationale Papierstatistik."

I. A. Nikitin reviews the "Russian Writing Paper Industry for 1921." Tables are given showing the number of factories, the number of workers employed, the production of crude pulp, cellulose and paper in the various government districts. This is followed by a summary of the production by kinds of paper.

L. P. Zherebov discusses the "Raw Materials in Russia." The question of the conservation of the natural wood resources is viewed from the Russian standpoint and the situation as it exists in other countries is reviewed. The author then mentions the usual methods of conservation (forest economy, improvement in cultivation, etc.).

Pages 75-102 contain abstracts from a number of leading foreign paper magazines; pages 103-110 gives the results of a number of tests on Russian printing and writing papers made by the Gosudarstvenny paper testing station. Statistical abstracts are given on pages 119-130.

The closing pages deal with the constitution of the Council, members, etc.

The editorial staff include I. I. Bobrov, I. A. Nikitin, B. S. Stormov and J. G. Chincin.

The Council is to be congratulated upon the appearance of this magazine as their official organ and our only regret is that we do not know of men in the paper industry who can read and make available to American readers the results of their investigations.

The writer acknowledges his indebtedness to Dr. J. Pele, who made the above comments possible.

C. J. West

Chairman, Committee on
Abstracts and Bibliography

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CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Properties, Chemistry and Testing of Raw Materials and Finished Products

Wood Fuel—I. B. Schibbye and S. Scholdstrom *Svensk Pappers Tidning* xxv, 159-160 (1922), *Chem Abs*, xvi, 4043 (Nov 20, 1922). Results of investigations to find more economical burning conditions for wood fuel are shown in 12 graphs. The highest temperature obtainable by burning wood with 70 per cent of water and with 12 per cent CO_2 in the flue gas was 775°C . Lowering the temperature of the flue gas from 300° to 130°C in small saw mills saves 18.3 per cent fuel. One cubic meter of wood weighing 271.3 kilos (55 per cent of water) was found to be 26.4 per cent more profitable than 1 cubic meter weighing 324 kilos and having 65 per cent of water. A saw mill using waste wood having 70 per cent water and yielding flue gas at 300° and 10 per cent CO_2 saved 16.5 per cent by raising the CO_2 content of the flue gas to 14 per cent.—A. P.-C.

Loading and Filling Materials—Carl C. Schneider, Knowlton Bros. *Paper Mill* xlv, No 45, 18-46 (Nov 18, 1922). *Paper Ind* iv, 1259-1261 (Dec, 1922). Brief description of the use of fillers and of their properties, more particularly those of clay.—A. P.-C.

Reactions of Cellulose with Sodium Chloride and Other Neutral Salts. I. Preliminary Survey—Helen Masters *Chem Soc Trans* cxxi, 2026-2034 (Oct, 1922). When thoroughly washed cellulose was washed with sodium chloride solution, it was found that the washings contained a very small but definite amount of acid. After washing with salt till no more acid was formed, by washing with water an amount of alkali was extracted which was practically equivalent to the acid extracted by the salt. These alternate extractions of acid and alkali could be continued practically indefinitely. Temperature apparently has no effect on the amounts obtained. Extracting the cellulose with decinormal solutions of ammonium chloride, sodium sulphate, barium chloride, and calcium chloride gave similar results, but varying amounts of acid and alkali were obtained.—A. P.-C.

Uses of the Microscope in Paper Mills—James Strachan *Paper* xxxi, No 3, 7-10 (Nov 8, 1922). An outline of the various purposes for which the microscope can be used in the paper mill.—A. P.-C.

Forestry

Use of Aircraft in Forest Operations—H. S. Quigley, Price Bros. & Co. *Pulp and Paper* xx, 1017-1019 (Nov 23, 1922). Brief outline of the method of making aerial surveys of timberlands and of the usefulness and reliability of aircraft for this purpose.—A. P.-C.

Pulp Possibilities on the Pacific Coast—A. W. Schorger, C. I. Burgess Laboratories. *Pulp and Paper* xx, 1045-1047 (Nov 22, 1922). A brief outline of the characteristics of ground wood of sulphite and of sulphite pulps prepared from the chief western woods and of the possibilities of utilizing by products (galactan from western larch, by products of lumbering redwood waste).—A. P.-C.

Groundwood Manufacturing and Equipment

Modern Practice in the Manufacture and Applications of Steamed Groundwood—A. O. Bragg *Chem Met Eng* xxvii, No 16, 793-797, No 17, 842-846 (Oct 18 and 25, 1922). A description of the present status and practical possibilities of the process, discussing the theory and describing the equipment used. The operation of a modern American mill is discussed.—A. P.-C.

Acid Process of Pulp Manufacture and Equipment

Pollution of Streams by Pulp Mill Wastes—Geo. C. Whipple *Proc Am Soc Civil Eng* xlviii, 1385-1392 (1922), *Chem Abs* xvi, 3991 (Nov 20, 1922). The peculiar character of sulphite waste liquor is its sulphur content, acidity and high organic content. Among the effects produced by discharging this waste into rivers is to make the stream unsightly by reason of deposits of pulp and fungi and algae growths, the tendency to drive away the fish, injuring the water for boiler feed, while the lignosulphonic matter interferes with coagulation, reducing the efficiency and increasing the cost of filtration. Uniform policy regarding stream pollution is needed.—A. P.-C.

Wastes from Pulp and Paper Mills Chemically Considered—H. W. Clark *Proc Am Soc Civil Eng* xlviii, 1393-1396 (1922), *Chem Abs* xvi, 3991 (Nov 20, 1922). Analyses are given for typical waste liquors from soda and sulphite mills. Neither of these liquors can be satisfactorily treated by any known method of purification other than evaporation and recovery of substances of value. They are exceedingly inimical to bacterial life and if mixed with sewage or other liquors and passed to filters they destroy the value of such filters. Much of the organic pollution in paper mill wastes is in suspension and may be recovered by passing through fine wire screens or by sedimentation. Ninety per cent to practically all the matter in suspension can be removed if 75 to 100 grains of aluminum sulphate per gallon are used. This means from 10,000 to 14,000 lbs. per million gallons of waste. Combination of screening, sedimentation and filtration will remove 70 per cent or more of the primary pollution matters of paper mill wastes.—A. P.-C.

Alkaline Processes of Pulp Manufacture and Equipment

Liquor Evaporators for Sulphate Plants—O. Olsson *Svensk Pappers Tidning* xxv, 29 (1922), *Chem Abs* xvi, 4060 (Nov 20, 1922). Modern plants use 25 per cent less fuel than the older types. With the proper use of waste heat a Kestner apparatus should have an efficiency of 85 to 90 per cent. Coupling pulp mills with saw mills eliminates the expense of preparing chips.—A. P.-C.

Pulp Treatment and Drying—Operation and Equipment

Save-Alls—A. W. Nason, Green Bay Foundry & Machinery Co. *Paper Mill* xlv, No 45, 16, 42 (Nov 18, 1922), *Paper Ind* iv, 1261-1267 (Dec, 1922). The function of save-alls is twofold: to recover stock which would otherwise be lost, and to detect leaks which would otherwise pass unobserved. The various types of save-alls, and more particularly those marketed by the Green Bay Co., are briefly described. The importance of not unduly overloading save-alls and of not recovering useless and harmful material (dirt, etc.) is emphasized.—A. P.-C.

Paper Manufacturing and Equipment

Rosin Size Control—P. W. Codwise, Byron Weston Co. *Paper* xxx, No 23, 7-9 (Aug 9, 1922). The method consists essentially in titrating 50 cc. of diluted rosin size milk (not over 5 per cent concentration) in 200 cc. of water, at the boiling temperature, with decinormal sodium hydroxide. A 0.5 per cent solution of thymolphthalein in 50 per cent alcohol is used as an outside indicator. The end point is reached when it turns slightly blue. The indicator should be tested frequently for sensitiveness, and be made up fresh at least monthly. The titration should be carried out on a solution of a concentration of 1 per cent or less. The method is recommended chiefly for control purposes. It is

believed that it will be of especial value when dealing with room size solutions containing considerable unsaponified rosin and that in such cases it may be used to advantage as a supplement to a previously published control method which estimated the alkaline properties of the size (Compare Codwise, *Paper* xxiv, No 22, Aug 6, 1919)—A P-C

Rubber Latex in Paper Making—Frederick Kaye *India Rubber J* lxiv, 435-442 (1922), *Chem Abs* xvi, 4062 (Nov 20, 1922) In making latex paper it is essential that the latex be thoroughly diluted with water before being added to the beaten pulp, and it is best added towards the end of the beating process. With low percentages of latex, coagulation occurs spontaneously, but with higher percentages it can be effected by magnesium sulphate, acetic acid, or best of all with alum. It is important with alkaline pulps to have an acid reaction at the end to prevent loss of rubber in the water. This is emphasized by experiments where an amount of latex calculated to give 2 per cent of rubber in the dried paper showed by analysis only 17 per cent whereas with the same fiber and latex calculated to give 4 per cent, analysis showed 407 per cent. Latex in very small amount accelerates the rate of cellulose hydration and the time for a stock to reach a definite strength and quality can thus be shortened. For a paper of a certain finish, the fibers are closer and more uniform in texture with latex than without. Paper given the same beating times has been increased in strength by over 1000 g per square mm and in breaking length by 1,000 m through the addition of 0.5 to 1 per cent of rubber. Vulcanization of latex paper containing 5 to 30 per cent by the Peachy process further increases the strength and makes a stiffer paper. Many weeks' exposure to sun and rain did not cause deterioration of any latex paper. The use of latex is particularly recommended for (1) increasing the elasticity of a paper lacking this property but of high strength (2) adding strength to weak paper made largely of waste and (3) increasing the folding endurance of any grade. Every grade can be improved in some property. The finest cotton and linen papers have been made with latex. Waterproof latex paper is suggested for packing food and for protecting young shoots on sugar plantations. Board, leather substitutes, linoleum, etc., can be made and dyed. So far the best results in dyeing materials containing latex have been with basic colors. 3 to 3.5 gallons of commercial ammonia per 100 gallons of original latex is a safe amount for complete preservation.—A P-C

Use of China Clay in Tinted Papers—*China Clay Trade Rev Pulp and Paper* xx, 1043-1044 (Nov 22 1922). A general discussion of the use of China clay in colored papers, and of the possibility of using it to prevent mottling by first precipitating basic dyes on the clay and then using the latter to color the stock. The order in which color, size and alum should be added to the beater is also briefly mentioned.—A P-C

The Revolving Suction Roll—Harold Bing, Sandusky Iron and Foundry Co. *Paper Mill* xlv, No 45, 22, 44 (Nov 18, 1922), *Paper Ind* iv, 1253, 1255 (Dec, 1922). A brief description of the Millspaugh suction roll and of its merits both as a couch and as a press roll.—A P-C

Press Room Requirements—S M Williams, New York World and DeGrasse Paper Co. *Pulp and Paper* xx, 1023-1025 (Nov 23, 1922). A discussion of press room waste caused by bad splices, poor winding, improper wrapping, careless loading, rough handling, and press room operations.—A P-C

The Curling of Fine Printing Papers—H H Hanson and H H Hackett, Eastern Mfg Co. *PAPER TRADE J* lxxv, No 21, 18-19 (Nov 23, 1922), *Paper Mill* xlv, No 46, 14, 40 (Nov 25, 1922). A presentation of the fundamental principles involved in the curling of paper, of the general method of attacking the problem at the Eastern Mfg Co, and of some of the experimental results and conclusions. Curling may be described as (a) surface action, (b) set and (c) static. The immediate causes of these

three kinds of curling are discussed. The fundamental causes are also discussed under the following headings: Beating and jordaning, beater sizing, alignment of fibers, pressing and drying, tub sizing, finish, and pole marks (for loft dried paper). By directing preventive efforts all along the line of manufacturing, curling can be stopped, but it requires proper methods of testing, careful instructions to the crews, and everlasting watchfulness by the foremen.—A P-C

Filter Paper Requirements—L C Breed *Paper* xxx, No 24, 7-8 (Aug 16, 1922). Brief outline of the manufacture and properties of filter paper for quantitative chemical analysis.—A P-C

Articles Produced from Pulp and Paper

Blank for Making Conical Paper Cups—D F Curtin. Can patent 224,742, Oct 10, 1922. Reissue of Can patent 177,102 of May 15, 1917. A P-C

Cutting Condensite Celoron Gears and Pinions—*Pulp and Paper* xx, 976 (Nov 9, 1922). A description of the properties of "Condensite Celoron" made by the Diamond State Fiber Co of Canada, Ltd.—A P-C

Preparation of Vulcanized Fiber—J A Sutchffe. Eng patent 183,497, Jan 27, 1921. Vulcanized fiber, prepared by the zinc chloride process, shows a tendency to absorb moisture owing to the presence of zinc chloride residues. This defect is remedied, and a product obtained more suitable for use in the manufacture of machinery parts, insulators etc., by saturating the material immediately after the "washing off" process, or even after it has been dried, with strong ammonia solution. When completely saturated the material is removed from the bath washed and dried.—A P-C

Manufacture of Cellulose Compounds (Esters, Ethers, Etc)—Plauson's Ltd, Eng patent 183,908, April 28 1921. Cellulose derivatives are made by treating cellulose, in a highly dispersed condition, with the desired reaction components, with or without condensing agents. The cellulose is dispersed by intensive mechanical disintegration at high speeds until the particles are about 0.0008 mm in diameter, e. g., in the colloid mill (Eng patent 179,124. Compare Frydender, this journal lxxiv, No 8, 48, Aug 25, 1921). Examples are given showing how to prepare the phosphoric ester, acetate, sulphide, and methyl ethers.—A P-C

Producing Yarn from Paper Pulp—F P Priem assignor to Turk Gesellschaft. Can patent 224,538 Oct 3, 1922. The rubbing or rounding of the rovings is carried out separately from the roving producing machine shortly before they are spun.—A P-C

General Equipment

Paper Mill Transmission Machinery—G N Vanderhoef *Paper* xxxi, No 1 7-12, No 2, 12-14 (Sept 6 and 13, 1922), No 3, 33 (Nov 8 1922). A discussion of shaftings, bearings, couplings, pulleys and rope drives, showing the proper function of each and the most suitable types under various conditions.—A P-C

Economics of Lighting in Pulp and Paper Mills—J H Kurlander Edison Lamp Works. *PAPER TRADE J* lxxv No 21, 20-26 (Nov 23, 1922), *Paper Mill* xlv, No 46, 20, 44 46 (Nov 25, 1922). The author discusses the advantages of sufficient and well designed lighting in increasing efficiency and production, showing that the added expense is greatly exceeded by the increase in production. He gives figures showing that a 110 volt circuit is more economical for lighting purposes than a 220 volt circuit.—A P-C

Lubrication of Paper Mills—I C Porteus *Paper Ind* iv, 924 926 (Oct, 1922). A brief discussion showing the merits of lubricating greases for paper mill machinery.—A P-C

Present Position of the Theory of Lubrication—Gumbel *Forschungsarb Geb Ingenieurw* No 224, 3-27 (1920), *Chem Abs* xvi, 3518 (Oct 20, 1922). The author characterizes the condition of dry liquid, and semi-liquid friction. The influence of temperature

on the viscosity of lubricants is represented by the equation $1/\eta = (\eta_{\min})_{\min} + K(\theta - \theta_{\min})^n$, where η is the viscosity and θ the temperature θ_{\min} being the temperature at which the fluidity ($1/\eta$) is a minimum. Ingler's and Hofer's experiments show that K is greater the lower the viscosity of the oil. Olive oil would be the best lubricant and water entirely unsuitable is such. A new apparatus is proposed for the measurement of fluidity, the outlet opening being a capillary slit. The Von Dillwitz Wegener theory whereby the minimum quantity of lubricant required is dependent on the surface tension and the angle of contact between the lubricated surface and the lubricant is criticized, and capillary forces are considered to be without influence on the friction between properly lubricated surfaces of machine parts. A. P.-C.

A New Carbon Dioxide Recorder—Electrician, lxxxix, 15 (1922). *Chem. Abs.* xvi 3415 (Oct. 20, 1922). This CO recorder is electric in operation, requires no chemical absorbent, has no delicate glass work, and is claimed to be very active and sensitive. The meter contains two identical spirals of platinum wire enclosed in separate cells in a metal block. One cell contains air saturated with water vapor and the other is open to the flue gases. The platinum spirals form two arms of a Wheatstone bridge circuit. When the current flows the spirals become heated, losing heat to the walls of the cells, their temperatures and resistances depending on the thermal conductivities of the gases surrounding them. CO₂ changes in the gas cause changes in its conductivity, and a consequent change in the galvanometer needle deflection. The indicating or recording galvanometer can be calibrated to give direct readings in per cent of CO₂. A portable CO₂ and temperature outfit is illustrated and briefly described. It is enclosed with the recorder. Current is supplied by dry cells fitted into the lid of the case. When CO₂ readings are desired the flue gases are drawn past the CO₂ water by pressing a rubber bulb and the multiway switch is turned to the CO position. For temperature readings a thermocouple is placed in the flue and connected by the two terminals, and the switch is turned to the position marked "temp." Each apparatus is illustrated. A. P.-C.

Properties, Chemistry and Testing of Raw Materials and Finished Products

Cellulose Content and Pulp Yields of Some Australian Woods

I. R. Benjamin and John L. Somerville. *Chem. Eng. Mining Rev.* xiv 377-379 (1922). *Chem. Eng. Prog.* xvi 4062 (Nov. 20, 1922). The following figures give the yield of cellulose (bone dry basis), and the maximum and minimum yields of unbleached soda pulp from Australian woods: *Cullenia* (*Hebea macleodiana*) 52-57.2-54.4 per cent; crows foot elm (*Allocasuarina verticillata*) 54-50.4; swamp cypress (*Callistrix flauca*) 43.2-45.1-41.3; blackbutt (*Eucalyptus viminalis*) 50.7-52.7-49.2; mountain ash (*Eucalyptus reynoldsii*) mature 57.2-53.2-48.4 immature 53.8-52.1-48.4; karri (*Eucalyptus diversicolor*) immature 55.7-52.3-48.4; silvertop (*Eucalyptus silvertop*) 50.6-46.2-45; woollybutt (*Eucalyptus delegatensis*) 55.9-52-51.2; stringybark (*Eucalyptus obliqua*) 51.9-48.4-46.4; karri (mill waste) 57.5-47.7-46.4. A 2 to 3 per cent loss of weight occurs during the bleaching process. These woods compare favorably with representative pulp woods of North America as regards cellulose contents and yields of pulp. A. P.-C.

Utilization of Maize Flowers, Stalks, and Leaves—Joseph Britt-Davis. *S. African Ind.* x 367-364 (1922). *Chem. Abs.* xvi 4063 (Nov. 20, 1922). A review of research work and of patents. The inside of the maize stalk furnishes a nearly pure natural cellulose. It is used in the manufacture of celluloid, paper pulp, a floor covering similar to linoleum, viscose nitrates, insulation for refrigerator trucks, steam pipe and boiler coverings, and for dry cells for electric storage batteries. Maize paper is remarkably tough and devoid of siliceous matter and undesirable brittleness. It is particularly suitable for bank-note paper and for envelopes. Coarser husks are used for the manufacture of wrapping paper. The residue from maize straw is made into fodder and ethyl

alcohol is obtained from the waste liquors of mills using the sulphite process. A. P.-C.

Mitscherlich Pulp—John E. Dacey. *Pulp and Paper* xx, 1001 (Nov. 16, 1922). Brief description of the process of manufacture of Mitscherlich pulp showing its superiority over quick cook sulphite and the reasons for this superiority. A. P.-C.

List of Abbreviated and Full Titles and of Addresses of the Journals From Which Abstracts Have Been Prepared for This Issue

Chem. Ab.	Chemical Abstracts, I. J. Crane, Ohio State University, Columbus, Ohio.
Chem. Eng. Mining Rev.	Chemical Engineering and Mining Review, Peter C. Lut, Scottish House, 90 William St., Melbourne, Australia.
Chem. Met. Eng.	Chemical and Metallurgical Engineering, McGraw-Hill Co., Inc., Tenth Ave. at Thirty-sixth St., New York City.
Chem. Soc. Trans.	Journal of the Chemical Society, Transactions, Queen's Station, 33 Paternoster Row, London, E.C. 4, England.
Chem. City Trade Rev.	The Chemical City Trade Review, Southampton Bldgs., High Holborn, W.C. 2, London, England.
Electrician	The Electrician, Bern Bros. Ltd., 5 Bonville St., London, E.C. 4, England.
India Rubber J.	India Rubber Journal, 37-38, Shoe Lane, London, E.C. 4, England.
Paper	Paper, 36 West Forty-fourth St., New York City.
Paper Ind.	The Paper Industry, 356 Monmouth Block, Chicago, Ill.
Paper Mill	The Paper Mill and Wood Pulp News, 11 D. Post, Tribune Building, 154 Nassau St., New York City.
Paper Trade J.	Paper Trade Journal, 10 East Thirty-ninth St., New York City.
Trans. Soc. Civ. Eng.	Transactions of the American Society of Civil Engineers, American Society of Civil Engineers, 170 E. Thirty-ninth St., New York City.
Pulp and Paper	Pulp and Paper Magazine, 11 Canada, Gordville, Ohio.
Swedish Paper Technol.	Swedish Paper Technology, Svenska Pappersfabrikerna, H. V. Sjöström, 3, Stockholm, Sweden.
S. African Ind.	The South African Industrial Industries, The Caledonian, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Dryden Paper Expansion

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, QUE., JAN. 8, 1923.—A belated statement on Dryden Paper has made its appearance in the form of a circular to shareholders, being supplementary to the annual meeting recently held. W. A. Black, president, tells of the expansion of mill facilities, the new addition now being well under way. The additional capacity will be available within three months. Additions include a water power of 1,400 h. p., a paper machine capable of producing a variety of paper, and a groundwood unit to enable new lines of paper to be made together with necessary equipment and buildings. The added capacity will allow the company to market more finished product rather than pulp. They were enabled to take advantage of a favorable market for machinery and construction. The addition will result in more economical manufacture. At present only 25 per cent of output is manufactured into finished product. Output of wrapping and building paper will be increased to 50 tons daily when the new equipment is turned in.

Freight Rate Hearing Postponed

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, MASS., JAN. 2, 1923.—The appearance of a large group of New England paper mill representatives before the New England Freight Association scheduled for last month was postponed for several reasons until this month, the paper mill men and their organization desiring a little more time to complete their brief in favor of an adjustment of rates on all grades of paper and boards within the New England industrial radius and from these same points to trunk line territory outside.

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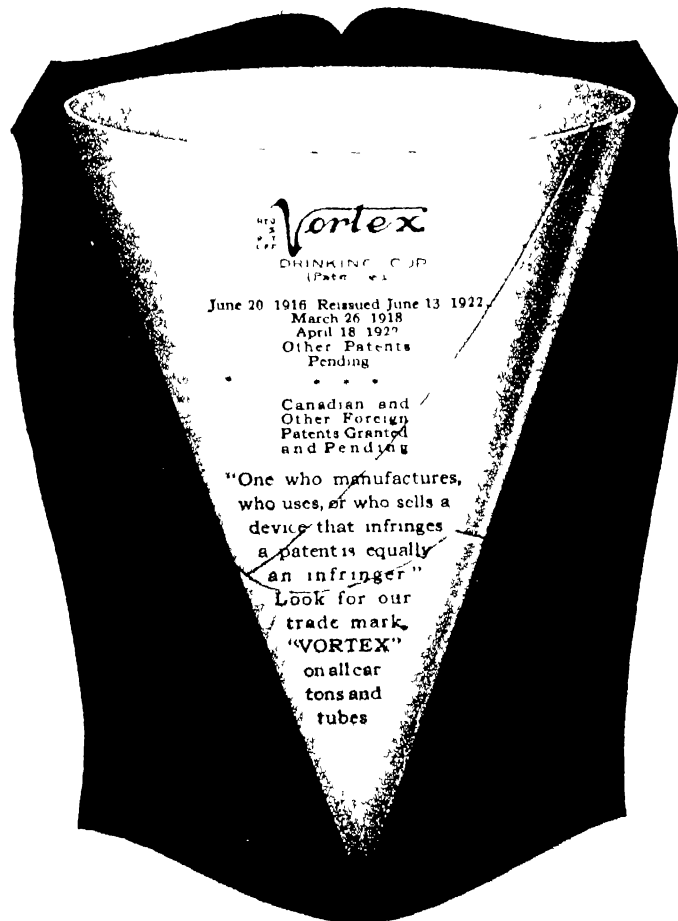
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As an additional service feature to its readers, the PAPER TRADE JOURNAL gladly offers to them an advance search free of charge, on any mark they may contemplate adopting or registering.

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For papers for cigarettes

THE PEACOCK LINE—No 168,635 Flynn-Lennon Wall Paper Company, Joliet, Ill For wall paper

SANIKKEP FRUIT WRAPPERS—No 170,255 Nashua Gummed and Coated Paper Company, Nashua N H For paper wrappers for fruit

Central Ohio Paper Co Has Sales Convention

COLUMBUS, Ohio, January 8, 1923—Strong opinion that '1923 will be a banner business year' was reflected in the sales convention of The Central Ohio Paper Company at the local company building, 226 North Fifth street, which closed Saturday, December 29. The convention was attended by 50 salesmen.

"Paper" and matters pertaining to it was the principal topic of discussion throughout the sessions. Talks on this subject were made by a number of men prominent in the paper trade. These included W J Rayhold Housatonic Mass president of the American Paper and Pulp Association; W D Rogers, of the S D Warren Company, Boston Mass; R O Harper and R B Rising vice president and secretary respectively of the B D Rising Paper Company Housatonic Mass; A M Beintohr of The A M Collins Company Philadelphia Pa; L J Nash The Neekoosa-Edwards Paper Company Port Edwards Wis; Col B F Franklin vice president of The Smithmore Paper Company, Mittineague Mass; R A Wight and Mr Calkins of Crane & Co, Dalton, Mass; and James Wilson The Hoover & Allison Co, Xenia. Local men included D M Drenin American Type Founders Company; Harry Bucher Bucher Engraving Company and William C Gast Pfeifer Show Print Company. William Myers The Columbus Litho Company also had a place on the program. Two Columbus salesmen H S Bronson and George E Wood won first and second prizes respectively for writing the best paper on salesmanship.

On Friday evening all officers and employees and guests of the company numbering 275, were entertained at the Columbus Country Club with a dinner and dance. This "Copco Family Dinner" as it is known to members of the company is an annual feature of the Central Ohio Paper Company's sales convention.

Appreciate Service of Trained Nurse

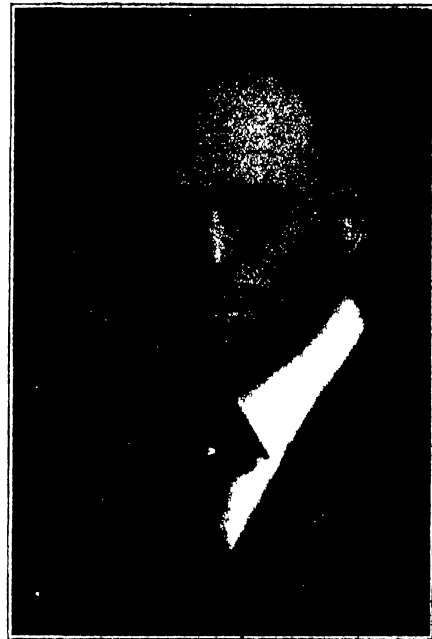
NEKOOSA, Wis. January 8, 1923—The employees of the Neekoosa Mill of the Neekoosa-Edwards Paper Company, presented mill nurse Miss Emma Long with a beautiful bronze table and electric lamp on January 1, 1923 in appreciation of her services in the first Aid Station on accidents as well as for the Employees' Mutual Benefit Association made up exclusively of mill workers and her good work among the home folks.

Miss Long has endeared herself to the public of Neekoosa as well as the mill workers and their families. Her record of the hundreds of cases she handles every month is evidence enough of the good she is doing, but her many admirers were not satisfied with this showing alone. She is given much of the credit for the fine safety showing of the Neekoosa Mill in 1922, when that mill won the safety flag 11 months out of 12 over the Port Edwards plant.

To Manage Whitaker Sales in Chicago

J T Hillyer was appointed general sales manager of the Chicago division of the Whitaker Paper Company, taking up his new duties January 1. Mr Hillyer was formerly vice-president and sales manager of the Paper Supply Company, dealer in fine and coarse papers, of Minneapolis, Minn.

He entered the paper business with the Wright-Barrett-Stillwell Company September 1, 1900. Until March, 1921, when Mr Hillyer allied himself with the Paper Supply Company, his successive



J T HILLYER

duties listed in order included: dusting stock, filling orders for fine paper, city desk, head of city desk, cost accountant, city salesman for fine papers, country salesman for both fine and coarse papers, head of the coarse paper department, secretary of the company, and buyer of fine and coarse papers.

Shelby Wax Paper Co to Move to Middletown

[FROM OUR REGULAR CORRESPONDENT]

MIDDLETOWN, Ohio, January 8, 1923—Announcement was made last week that the plant of the Shelby Wax Paper Company, of Shelby, Ohio, will be removed to this city in the near future, the plant to be situated adjoining that of the Crystal Paper Company, with which the Shelby Company is merged.

The new company is to be capitalized at \$100,000, with Z W Ranck president of the Crystal Tissue Company, president, W H Muchmore, Shelby, vice-president and general manager, W O Barnitz of this city treasurer and C O Sellen, Shelby, secretary and sales manager.

Mills in Norway and Sweden Busy

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D C, January 10, 1923—According to recent cable advices from Assistant Trade Commissioner Sorensen at Copenhagen, the paper market in both Sweden and Norway is operating on a small margin of profit but the demand is firm and exports have been increasing. News of a rising market in England and the United States has tended to strengthen prices.

Paper mills are all operating and have orders for the next two months' production. Pulp mills in Norway have been forced to curtail production due to the shortage of water.

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James Lawrence, President
THE LAWRENCE BAG CO.
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Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 10, 1923.—The purchasing officer of the Government Printing Office has received the following bids: 7,400 pounds 24 x 38 74 pounds 9 500 pounds 27 x 38—95 pounds, 14,800 pounds 24 x 38—148 pounds rope manila paper, Maurice O'Meara Company at \$1023 R. P. Andrews Paper Company, \$0815 and Old Dominion Paper Company \$1417.

Bids will be opened at the printing office on January 17 for the following:

19,500 pounds (300 reams) 32 x 48 -65 pounds White Rag Machine Finish Printing Paper.

38,000 pounds (500 reams) 38 x 48 - No. 1 76 pounds White Machine Finish Printing Paper.

The purchasing officer of the Government Printing Office has received the following bids:

36,000 pounds 22½ x 28½ -75 manila tag board, calendar, in 24 inch rolls Dobler & Mudge at \$09 per pound, The Whitaker Paper Company \$0893 Maurice O'Meara Company \$0719 Wilkinson Bros. & Co. \$0621 R. P. Andrews Paper Company \$074 Old Dominion Paper Company \$0849.

345,000 pounds 25 x 38 35 white M1 printing paper, in 18 inch and 19 inch rolls Bryant Paper Company \$06925 per pound R. P. Andrews Paper Company \$0687, The Champion Fibre Company, \$0758 International Paper Company \$0715 Allied Paper Mills \$0717.

100,000 pounds 25 x 38 45 white S & S C printing paper in 38 inch rolls Bryant Paper Company \$07115 per pound Kalamazoo Paper Company \$0725 Allied Paper Mills \$0739.

77,000 pounds 38 x 48 white bag M1 printing paper Bryant Paper Company \$0985 per pound Old Dominion Paper Company, \$1349.

5,000 3 x 4 11/16 white writing envelopes, OSG R. P. Andrews Paper Company \$059 per M. Mathers-Finn Paper Company \$215 and U. S. Envelope Co. \$145.

The purchasing officer of the Government Printing Office will open bids on January 15 for 225 pounds (50 reams) of 19 x 24 4½ facing stereo tissue paper.

3,620 pounds (20 reams) 22½ x 28½ 181 index bristol board.

The Bureau of Supplies and Accounts, Navy Department, will open bids on January 16 for 10,000 pounds of twitted paper twine.

The Bryant Paper Company has been awarded the contract for furnishing the Government Printing Office with 77,000 pounds (1,000 reams) of 38 x 48 77 white rag M1 printing paper at \$0985 per pound bids for which were opened on January 2.

La Monte & Son have been awarded the contract by the Government Printing Office for furnishing 2,637 pounds of blue and gray machine finish safety writing paper at \$238 per pound bids for which were opened on December 26.

The Paper Merger Rumor in Canada

MONTREAL, Que., January 8, 1923. Although denial has been given the rumor of a merger between Spanish River and Abitibi, it will not down. The reports are not definite enough to warrant anything like an interest on that account, in the stock issues of the companies mentioned. While the reports are generally discredited, the Street is busy figuring how such a plan would work out, and what might be the result for stockholders. The view is that common shareholders would be in the way of a nice little melon were the deal brought to consummation. It is true that for some time past there has been a close marketing affiliation between the two big news print paper producers, but the matter is said to rest there; the ticker has not yet told of a merger story and until it does the rumor will not be allowed to figure in future calculations. Merger or no merger, however, the position of shareholders of both companies seems altogether satisfactory.

Newman-Kohn Company Starts Operations

The Newman Kohn Paper Company, recently incorporated under the laws of the State of New York, has begun the manufacture of paper bags in Building No. 3, Bush Terminal Building, 219 36th street, Brooklyn. In addition to making bags, the concern also will represent mills making toilet and wrapping papers.

The president of the concern is Albert Newman, who for 11 years was sales manager in New Jersey of the Republic Bag and Paper Company. Mr. Newman enjoyed a wide acquaintance among the trade in New Jersey and was known especially for his willingness to serve which reputation he hopes to increase in the larger field in which he has entered. The trade will be visited by Mr. Newman shortly.

Leon A. Kohn is the vice-president and treasurer of the new concern. Previous to assuming this position, Mr. Kohn was the vice president and treasurer of one of the largest wholesale grocery concerns in New Jersey.

Frederick G. Crane Heads Crane & Co.

DALTON, Mass., January 2, 1923.—At a meeting in Dalton this morning of the board of directors of the newly organized corporation Crane & Co., Inc., formed to take over the paper manufacturing business of the partnership of Crane & Co. in Dalton and Westfield, the following permanent officers were elected: President, Frederick G. Crane, vice president, Z. Marshall Crane, treasurer and general manager, W. M. Crane, Jr., clerk, Frederick G. Crane, Jr., director, Frederick G. Crane, W. M. Crane, Jr., Z. Marshall Crane and Frederick G. Crane, Jr. The company has a capitalization of \$500,000 consisting of 30,000 shares of common stock at a par value of \$100 a share. This morning the deed conveying the property from the partnership to the newly formed corporation was placed on record at the court house in Pittsfield by Atty. James L. Bacon of Bolton, who is counsel for the corporation. The stamps showed a valuation of about \$956,000.

Fuel Oil Committee Formed

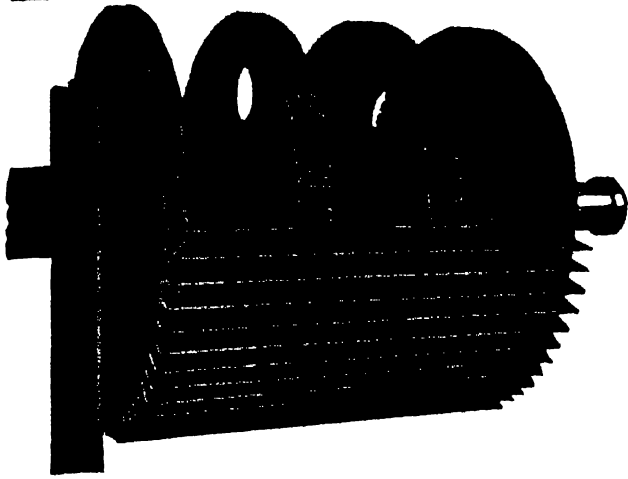
POSTON, Mass., January 2, 1923. The fuel problem just now is receiving considerable attention. Chester F. Whittemore, secretary of the New England Paper and Pulp Trade Association has made an exhaustive investigation of the relative merits of coal and fuel oil for consumption in New England paper mills. Mr. Whittemore, who is transportation manager of the S. D. Warren Company, stated that a New England fuel oil consumers' committee has been formed to investigate and present the situation to the New England railroads with a request for an adequate and fair fuel oil rate. On the rate committee are A. A. Raphael of the New England Paper & Pulp Trade Association, and D. L. Taylor of the Pacific Mills. New England paper men are keenly interested in Mr. Whittemore's study.

Elected Vice-President of Moore & Thompson Co.

The many friends of Maurice Rosenfeld, president of the Equitable Paper Bag Company, manufacturers of paper bags and sacks, with offices at 516 Fifth Avenue, New York, and factory at Scholes street, Brooklyn, will be interested to learn that he has just been elected to the office of vice president of the Moore and Thompson Paper Company, manufacturers of No. 1 kraft paper, with mills at Bellows Falls, Vt. This new connection will naturally tend to make the position of the Equitable Paper Bag Company a stronger factor in this field.

Estate of Late Frank E. Boston

GARDINER, Me., January 8, 1923.—Frank E. Boston, for many years agent of the Hollingsworth & Whitney Paper Company here, left an estate appraised at \$308,611.75 according to the inventory just filed here.



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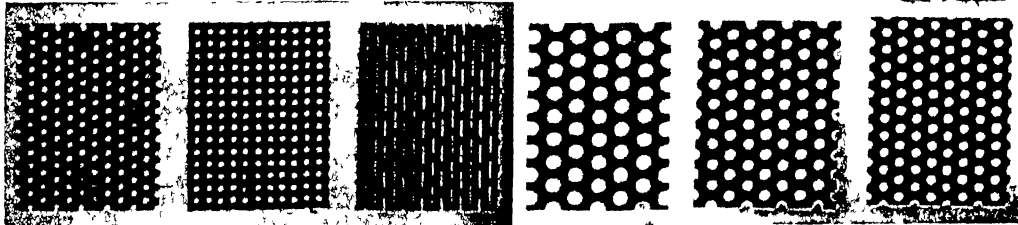
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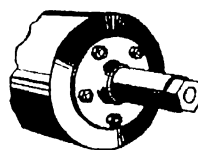
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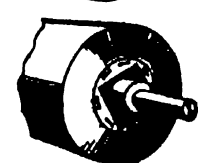
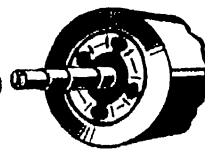
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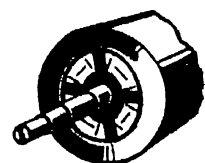
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AMERICAN WOODPULP CORPORATION

FOREIGN AND DOMESTIC
CHEMICAL and MECHANICAL
WOODPULPS

Rags, New Cuttings, Bagging, Etc.

New York—347 Madison Ave

Branches:
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Holyoke—J B Woodruff, Inc.
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LONGITUDINAL AND
CROSS-DRUM TYPES
WASTE HEAT BOILERS
ALL CONFORM TO ASME CODE



HEINE LARGE UNIT BOILERS

Heine Boiler Company

SAINT LOUIS U.S.A.

BOILER MANUFACTURERS FOR 40 YEARS

N. Y. Office
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Howard Bond



Howard Ledger

"The Paper of Many Uses"

Manufactured by

THE HOWARD PAPER COMPANY

MILLS
Urbana, Ohio

West Virginia Pulp and Paper Company

Manufacturers of

Superslendered and Machine

Finished Book and Lithographic Papers

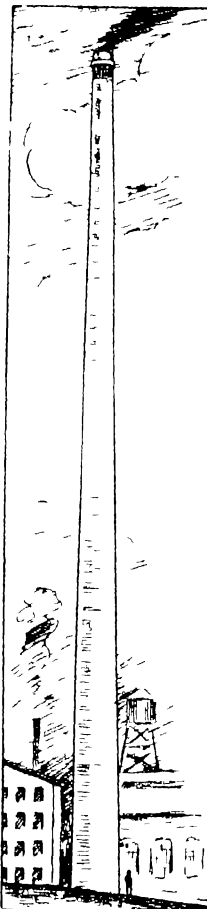
Offset, Envelope and Music
Paper, High Grade Coated
Book and Label Papers

also

Bleached Spruce Sulphite and Soda Pulp

200 Fifth Avenue
New York

732 Sherman Street
Chicago



AJESTIC, steel-
ribbed, rock rooted, the
285 ft K V P. smoke
stack symbolizes the
superior product of the
big plant over which it
presides

If you are not ac-
quainted with this or-
ganization whose two-
fold ideal is "To excel
in Paper product and
just be good folks to do
business with," the latch
string is out. Come in!

KALAMAZOO
Vegetable Parchment Co.

KALAMAZOO
MICHIGAN

GREASEPROOF PARCHMENT PAPERS

OF STANDARD QUALITY

Purity

Quality Plus

Ashmere

Equally Fine

Berkshire

Stands the Test

OUR PAPERS ARE EXCELLENT FOR MEAT MARKETS, GROCERS AND GENERAL PACKING HOUSE REQUIREMENTS

Mountain Paper Co.

(Write for Samples and Quotations)

SALES OFFICE

110 E. 42nd Street
NEW YORK

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JANUARY 6, 1923

SUMMARY

News print	621 rolls
Printing paper	19 cs 71 rolls
Surface coated paper	66 cs
Filter paper	41 cs
Drawing paper	31 bbls
Hangings	78 cs 2,201 bbls
Wall paper	3,642 cs
Cigarette paper	98 cs
Photo paper	4 cs 8 bbls
Tissue paper	2,341 rolls 80 bbls
Wrapping paper	11 cs
Glass paper	1,605 bbls 78 bbls
Packing paper	3,992 rolls 1,912 bbls
Miscellaneous paper	

CIGARETTE PAPER

P. J. Schmeitzer, Buckleigh, Marseilles	16 cs
British American Tobacco Company, Adriatic	1,560 cs
R. J. Reynolds Tobacco Company, West End	1,460 cs
American Tobacco Company, West End	1,560 cs
P. J. Schmeitzer, Asia, Marseilles	90 cs
Zarbo Tobacco Company, by same	12 cs
The Sunbury Company, Rotterdam	13 cs
De Manduit Paper Corporation, by same	110 cs

WALL PAPER

A. C. Dodman Jr. Inc., Berengaria, Liverpool	13 cs 7 bbls
A. Murphy & Co., by same	3 bbls
I. C. Praver Company, London	2,061 bbls
A. Murphy & Co., Atlantic, Liverpool	1,17 bbls
A. Murphy & Co., Hamer, Hamburg	6 bbls
R. I. Downing & Co., Ltd., Alton, London	11 bbls 25 cs

PAPER HANGINGS

W. H. S. Lloyd & Co., Mesaba, London	19 bbls
A. C. Dodman Jr. Inc., Atlantic, Liverpool	12 bbls

DRAWING PAPER

H. Reeve Angel & Co., Mesaba, London	11 cs
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THICK PAPER

H. Reeve Angel & Co., Mesaba, London	10 cs
J. M. & Anand, Noordam, Rotterdam	8 cs
P. L. & Co., Mesaba, London	12 cs

SURFACE COATED PAPER

E. C. Zuhler, London	21 cs
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TRINKET PAPER

P. C. Zuhler, London	10 cs
J. H. Scott, London	24 bbls

NEWS PRINT

P. J. Schmeitzer, Buckleigh, Hamburg	74 rolls
H. Reeve Angel & Co., by same	60 rolls
Chemical National Bank, Noordam, Rotterdam	312 rolls

PHOTO PAPER

General Company of America, London	2,000 cs
C. J. Caim, Atlantic, Liverpool	4 cs

TISSUE PAPER

C. H. Wynn, Shipping Company, Adriatic, Liverpool	1 cs
H. Reeve Angel & Co., Hamer, Hamburg	8 bbls

WRAPPING PAPER

D. S. Widen & Co., Hamer, Hamburg	11 cs 8 bbls
I. Barrett & Sons, by same	72 bbls 36 rolls
W. Schall & Co., by same	1,692 rolls

CLASS PAPER

I. N. Smythe & Co., Hamer, Hamburg	11 cs
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PACKING PAPER

K. MacAlpine, Noordam, Rotterdam	1,605 bbls
M. O. Meira Company, Mercier, Antwerp	78 bbls

PAPER

H. Reeve Angel & Co., Berengaria, Liverpool	2 cs
C. R. Richard & Co., by same	2 cs
The Romeo Company, Mesaba, London	8 rolls
Burn & Wachenheim, Friesland, Antwerp	34 cs
Burn & Wachenheim, Hanover, Bremen	50 bbls
Alpers & Mott, by same	55 cs

Virginia Paper Company, by same 131 bbls
H. Reeve Angel & Co., by same 1,100 rolls
J. Harris & Co., by same 113 rolls 96 bbls
M. O. Meira Company, by same 54 bbls
Parsen & Whittmore, by same 978 rolls
J. Heughebaert, Noordam, Rotterdam 27 cs
C. Steiner, by same 13 cs
W. I. Livingston & Co., London, Glasgow

Equitable Trust Company, Albany, Hamburg
C. R. Richard & Co., by same 5 cs
Kepler & Paper Company, Oldenburg, Ham
burg, by same 333 bbls
Penhix Paper Company, by same 24 bbls
Miller Paper Company, by same 25 bbls 1,038 rolls

Klein Brothers Paper & Tissue Company, by same 193 rolls 10 bbls
Central N. Y. Supply Company, by same 23 bbls 344 rolls

M. M. Chen, by same 170 rolls 345 bbls
Libby & Williams Paper Company, by same 45 bbls 290 rolls
Great Notch Paper Company, Inc., by same 534 bbls

Finco de Sonora, Hermosillo, Bourbonnais
City, 1,000 rolls
A. Murphy & Co., Rochembeu, Havre 6 cs
Burn & Wachenheim, by same 11 cs
Japan Paper Company, by same 8 cs
K. & Co., by same 6 cs
K. & Co., by same 10 cs
W. & Co., by same 4 bbls

K. & Co., by same 10 cs
W. & Co., by same 4 bbls

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W. & Co., by same 4 bbls

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W. & Co., by same 4 bbls

K. & Co., by same 10 cs
W. & Co., by same 4 bbls

Castle & Overton, by same 1,060 bbls 212 tons
Castle & Overton, Noordam, Rotterdam, 1,102 bbls
Indewater, Papermills Company, Tosto, Liver
pool, N. B. 21,674 bbls 2,167 tons

CASIN

I. M. Deche & Sons, West End, Bordeaux, 133 bbls 10,049 kilos
A. Klipstein & Co., Rochembeu, Havre 20 bbls

CHINA PAPER

C. I. Wilson & Co., Inc., Wells City, Bristol 50 cs
McIntire & General Traders, Inc., by same 20 cs
C. P. Richard & Co., by same 200 bags

BALTIMORE IMPORTS

WEEK ENDING JANUARY 6, 1923

K. & Co., by same 10 cs
W. & Co., by same 4 bbls

NEW ORLEANS IMPORTS

WEEK ENDING JANUARY 6, 1923

Castle & Overton, Kennedy, Havre 215 bbls

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 6, 1923

C. K. MacAlpine, Multiple, Hamburg 616 bbls

C. K. MacAlpine, by same 5,183 rolls paper
J. Webb, Knoll, Liverpool 70 bbls rags
D. M. Hols, by same 48 bbls paper stock

Indenburgh, Thilman & Co., Vincent, Havre, 14 bbls rags
C. H. & Co., W. End, Bordeaux 312 bbls

C. H. & Co., by same 210 bbls rags
J. I. Keller Company, Inc., by same 292 bbls rags

C. H. & Co., by same 236 bbl rags
Equitable Trust Company, Bourbonnais, Ohio, 1,444 bbls

Indenburgh, Thilman & Co., Bourbonnais, Mar
seilles 7,111 rags
Castle & Overton, Sw. Miller, London 40 bbls

waste paper
Dill & Co., by same 1,23 bbls waste paper
Equitable Trust Company, by same 32 bbls waste

paper
J. I. Keller & Liverpool Bank of Commerce, by
same 2,775 waste paper 155 bbls rags
D. J. Murphy, by same 56 bbls rags

Castle & Overton, Ivar, Copenhagen, 264 bbls

Castle & Overton, Prudelyde, Hamburg 143 bbls

Castle & Overton, Bredyk, Amsterdam 126 bbls

Castle & Overton, Blydenlyk, Rotterdam 78 bbls

Castle & Overton, West Islet, Manchester 406 bbls waste paper

J. I. Keller Company, Inc., West Haven, Ham
burg 87 bbls rags
J. I. Keller Company, Inc., West Haven, Ant
werp 170 bbls rags

J. I. Keller Company, Inc., Missouri, Antwerp 724 bbls rags
J. I. Keller Company, Inc., V. de Djiloute, Mar
seille 123 bbls rags

J. I. Keller Company, Inc., M. Shipper, Man
chester 122 bbls rags
J. I. Keller Company, Inc., Ausalde, VIII, Genoa 32 bbls cotton waste

J. I. Keller Company, Inc., Altmak, Hamburg, 144 bbls rags
J. I. Keller Company, Inc., Jinn, Marseilles, 91 bbls rags

J. I. Keller Company, Inc., Prudelyde, Ham
burg 434 bbls rags
Kutzenstein & Keene, Inc., by same, 49 bbls rags

Kutzenstein & Keene, Inc., Madras City, Ham
burg 415 bbls rags
Kutzenstein & Keene, Inc., Malgache, Marseilles, 100 bbls rags

J. Vandiner, Sw. Miller, London 250 coils old rope
Castle & Overton, Ivar, Copenhagen, 241 coils old rope

Castle & Overton, Emden, Hamburg, 685 bbls wood pulp

(Continued on page 68)

Felt Test—Lowest Cost per Ton

If you judge felt values, not by what you put into the equipment, but what you get out of it—then you will specify ORR 3 stripe Endless Felts for ORR felts will produce the lowest cost per ton. They "stand up" under severe usage. Orr durability is acknowledged everywhere. Their strength and long life are as dependable as their reliability and quality.

In the 32 grades of Felts and Jackets we can match your most exacting demands. Tell us the kind of paper you desire to make, and we will send you samples of felts that will economically serve you and help you to produce paper at lowest cost per ton.

THE ORR FELT & BLANKET COMPANY, Piqua, Ohio

PAPER MAKERS CHEMICAL CO. WESTERN PAPER MAKERS CHEMICAL CO.

EASTON
JACKSONVILLE

HOLYOKE
PENSACOLA

KALAMAZOO
ST. AUSTELL

CLAYS ROSIN SIZE
SATIN WHITE FOAM KILLER

FELT SOAP and OTHER SPECIALTIES

PULP STONES

of absolutely the finest quality

Lombard & Co., Incorporated

Importers and Dealers

236-238 A Street : BOSTON, MASS.

Branch at Montreal, Canada

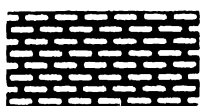
Perforated Metal Screens For Pulp and Paper Mills

STEEL, COPPER, BRASS, BRONZE
and other Alloys

punched for Centrifugal and
Rotary Screens, Pulp Washers,
Drainer Bottoms, Filter Plates, etc



0.65 Inch Round



1/8 x 1/2 Inch Slots

CHARLES MUNDT & SONS

53-65 FAIRMONT AVE

JERSEY CITY, N. J.

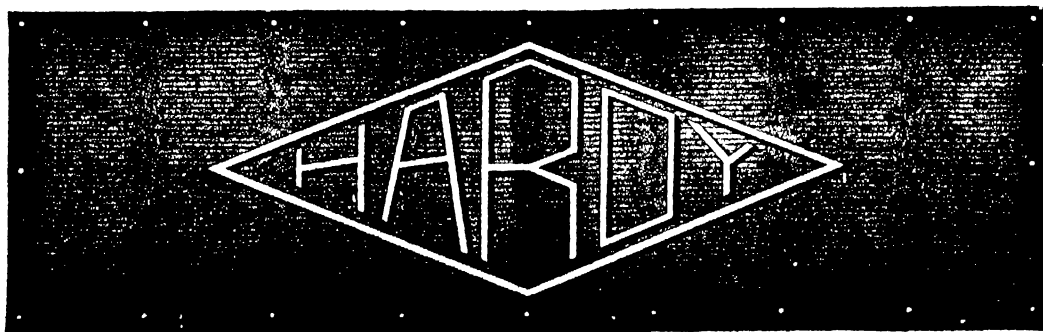
KRAFT PAPER WANTED

SIDE RUNS OR ODD LOTS

The larger the quantities the better we like it.
No item of less than one ton of a size and weight
wanted.

Box No 5598, care of Paper Trade Journal.

WILLIAM A. HARDY & SONS COMPANY, Fitchburg, Mass., U.S.A.



New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY JANUARY 10, 1923

News print has continued active and very much in the lime light over the year end. It is estimated that the total production of this commodity for the past year will exceed that of 1921 by ten per cent or more. Imported print paper declined in volume about one-third under the total of foreign shipments for 1921 and the undertone of the market has firmed continually due partly to the low water conditions which have curtailed ground wood production and due largely to the phenomenal demand from consuming centers. Leading figures in the industry believe that 1923 will prove to be the greatest the trade has ever known.

According to several book paper dealers, prominent in the New York trade, their clientele is not nearly so reticent in regard to stocking up at least for the immediate future as it was at this time last year. The holiday buying inertia is gradually giving place to a substantial business that while not of a phenomenal nature, bodes well for the book paper industry of 1923 in that it is consistent and regular. Confidence has in the main returned and the market is regarded as firm.

Fine papers enjoyed a corresponding enhancement in the number of inquiries and fair-sized orders attending the first full week's business of the new year. Prices have held steady and all indications would point to a healthy activity once the spring buying season gets under way. Considerable business exists in the undertone of the fine paper market and a perceptibly greater degree of confidence has been expressed in the attitude of consumers.

Tissues have held firm in point of price during the last week and a perceptible increase in business volume was apparent. High ground wood prices and the scarcity of this commodity lend strength to the tissue market and manufacturing lizards make it appear likely that there will be no recession in prices until well into the forthcoming year.

Kraft has failed to register any pronounced advances during the past week but prices have remained on an even keel and it is felt that the market only lacks the stimulus of a brisk consuming demand for a continuation of the excellent business this market has enjoyed of recent months. Spot transactions during last week were of a light character but contract shipments moved along as usual.

The situation in the board market was anchored to a certain degree toward the close of the week when the first manifestations of post-holiday buying made themselves apparent. Prices have held at the lowered levels reached just before Christmas and coming probably as a result of the weakening in the chemical pulp market at that time.

Mechanical Pulp

Water shortage in grinding regions has given rise to unusually active bidding for all available supplies of prime spruce ground wood, spot prices having ranged during the past week from \$44 per ton upwards. Imported mechanical pulp has been quoted at \$40 to \$45 ex-dock, New York, with the Canadian quality a trifle below this. Using present conditions as a criterion there is scarcely any relief in sight for ground wood producers until the spring season gets well under way and ample water supply may again be had.

Chemical Pulp

The first unbroken week's business of January has brought with it as certain acceleration in the buying of chemical pulps, although this market is still far from recovering the vigor it possessed before the blows dealt it by the holiday quietude as well as the price recessions which took effect last month. The fact that paper mills are well covered with orders for various grades extending over the next few months leads pulp dealers to anticipate a thorough resumption of pulp buying as soon as the stocks on hand have had op-

portunity to deplete and the mid-January buying season gets in motion.

Old Rope and Bagging

While buying during the week past has been for light tonnages in the main, old rope is in a firm position at the inception of the new year. Prices it is felt by reliable authorities, will advance owing to the fact that rope accumulations are scanty and both imported and domestic grades have fallen off from a production standpoint.

Bagging, on the other hand, is still considerably below normal as far as the scrap grades are concerned and tissue manufacturers have been reluctant to stock up to any great extent on the No. 1 quality. Dealers feel that a better era of business is in sight within the next thirty to sixty days.

Waste Paper

Waste paper has continued to maintain the advances prognosticated in the latter part of the holidays and the strong undertone of the market has been reflected in steadily advancing prices in the lower grades as well as a considerable amelioration in the activity of the better grades. Dealers are not too anxious to book quantity orders for future delivery during the rising market and, on the whole, business during the coming two months is expected to parallel that attained in the fall of 1922 if not to exceed it.

Rags

Probably the most conspicuous feature of the rag market is the new vigor which has entered the roofing grades since the first of the year, quotational advances of approximately \$1 per ton having taken effect. A certain degree of firmness pervades nearly every rag market of interest to the paper manufacturing trade and while the activity in cotton cuttings has been light, whites have held firm and blues steady. This condition gives rise to the belief that the rag market for some months practically dormant, is on the verge of rehabilitation.

Twine

Twine dealers report that while the demand from consumers is of a decidedly hand-to-mouth character, supplies are gradually declining and that when buying activity commences a new level of twine prices automatically will be ushered in. Business is expected to accelerate by the first of February.

Imports of American Paper in Argentina

Among Latin American countries Argentina ranks second as a market for paper and paper products made in the United States. It is surpassed only by Cuba but the latter country has been regarded as part of the American domestic market, and efforts to develop it have been intensive. It is believed that if a corresponding effort to increase the trade with Argentina in this class of merchandise were put forth it would result in making that country one of the best customers as from the amount of paper consumed, it presents more possibilities than any of the Latin-American nations.

News print is the principal kind of paper imported into Argentina, which has a total annual consumption of 40,000 metric tons, practically all of which is imported. Most of this is consumed in the Federal District and Province of Buenos Aires.

The next paper in demand is known as "papel para obras." This is a machine finish with a high or supercalendered book surface. It is sized for writing purposes, so that it can be used for either printing or writing. Papers made in the United States with a litho finish and supercalendered are similar to this, but they would probably require a slightly harder sizing. Practically all grades of machine finish and supercalendered paper, hard sized for writing, would find a market.

The local mills in Argentina make some very good grades, but the production is not sufficient to meet the demand.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations January 9, 1923

American Writing Paper Company, pref
International Paper Company, com
International Paper Company, pref, stamped
Union Bag & Paper Corporation

BID ASKED
27 1/4 28 3/4
51 1/4 51 3/4
74 1/4 75
66 68

Paper	
F o b. Mill	
Ledgers	11 00 @ 38 00
Bonds	9 00 @ 55 00
Writings—	
Extra Superfine	16 00 @ 35 00
Superfine	14 00 @ 30 00
Tub Sized	10 00 @ 15 00
Engine Sized	8 50 @ 11 00
News—f o b. Mill—	
Rolls, contract	3 85 @ 4 00
Rolls, transit	4 00 @ —
Sheets	4 00 @ —
Side Run	3 25 @ 3 50
Book, Cased—f o b. Mill	
S & S C	7 50 @ 12 00
M F	7 00 @ 10 00
Coated and Enamel	9 00 @ 14 00
Lithograph	9 00 @ 14 00
Tissues—f o b. Mill	
White, No 1	95 @ 1 10
Colored	1 25 @ 2 50
Anti Tarnish	1 75 @ 2 25
Silver Tissue	— @ —
Manila	90 @ 1 00
Kraft—f o b. Mill—	
No 1 Domestic	7 00 @ 7 50
No 2 Domestic	6 50 @ 6 75
Imported	6 50 @ 7 00
Screenings	3 15 @ 3 40
Manila—	
No 1 Jute	8 50 @ 9 00
No 2 Jute	7 75 @ 8 50
No 1 Wood	4 50 @ 5 50
No 2 Wood	4 00 @ 4 50
Butchers	4 25 @ 4 75
Fiber Papers—	
No 1 Fiber	6 00 @ 6 25
No 2 Fiber	5 25 @ 5 50
Common Bogus	3 50 @ —
Card Middles	4 00 @ 5 00
Boards—per ton—	
News	60 00 @ 65 00
Straw	65 00 @ 70 00
Chip	55 00 @ 60 00
Binders' Board	75 00 @ 85 00
S&L Mla Li Chip	65 00 @ 70 00
Wood Pulp	— @ —
Container	75 00 @ 80 00
Wax Paper—	
Self Sealing White	
28 and 30 lb	
basis	11 00 @ 12 00
Waxed Tissue	1 60 @ 1 80
Glassine—	
Bleached, basis 25	15 00 nominal
Bleached, basis 20	13 00 nominal
Papermakers' Felts, per ton—	
Dry	75 00 @ 85 00
Saturated	65 00 @ 75 00
Sheathing Paper, per ton—	
Rosin Sized (red and gray, 30 lbs per 500 sq ft)	55 00 @ 65 00

Mechanical Pulp

(Ex Dock)

No 1 Imported	40 00 @ 45 00
No 1 Domestic	42 00 @ 46 00
For immediate shipment	46 00 @ —

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—	
Bleached	4 25 @ 4 75
Easy Bleaching	3 00 @ 3 25
No 1 strong unbleached	2 80 @ 3 00
No 2 Strong unbleached	2 65 @ 3 00
No 1 Kraft	2 85 @ 3 00
Sulphate—	
Bleached	4 00 @ 4 25
(F o b. Pulp Mill)	
Sulphite (Domestic)—	
Bleached	4 50 @ 5 00
Strong unbleached	2 90 @ 3 20
Easy Bleaching	
Sulphite	3 00 @ 3 25
News Sulphite	2 75 @ 3 00
Mitscherlich	2 85 @ 3 15

Kraft (Domestic)	3 10 @ 3 25
Soda Bleached	4 25 @ 4 50

Domestic Rags

Prices to Mill, f o b N Y.	
Shirt Cuttings—	
New White, No 1	11 50 @ 12 00
New White, No 2	6 50 @ 7 00
Silicas, No 1	7 50 @ 8 00
New Unbleached	9 00 @ 9 50
Washables	4 50 @ 5 00
Fancy	6 25 @ 6 75
Cotton—according to Grades—	
Blue Overall	5 50 @ 6 00
New Blue	4 75 @ 5 00
New Black Soft	5 50 @ 6 00
New Light Sec	2 75 @ 3 00
O D Khaki Cut	4 00 @ 4 50
Men's Corduroy	3 00 @ 3 25
New Canvas	7 00 @ 7 25
New Black Mixed	2 50 @ 2 75

White, No 1—	6 50 @ 6 75
Miscellaneous	5 50 @ 5 75
White, No 2—	3 25 @ 3 50
Repacked	5 50 @ 5 75
Miscellaneous	1 75 @ 1 85
St Soiled White	1 90 @ 2 10
Repacked	1 50 @ 1 60
Miscellaneous	2 90 @ 3 25
Black stockings	2 90 @ 3 25
Roofing Rags—	
Cloth Strippings	1 10 @ 1 20
No 1	1 10 @ 1 20
No 2	1 00 @ 1 10
No 3	80 @ 90
No 4	80 @ 90
No 5A	1 00 @ 1 10

Foreign Rags

New Light Silicas	6 00 nominal
Light Flannelettes	6 75 nominal
Unbleached Cottons	7 50 nominal
New White Cut	9 50 nominal
tings	6 00 nominal
New Light Oxfords	4 50 nominal
New Light Prints	2 00 @ 2 50
New Mixed Cut	1 90 @ 2 10
tings	9 00 @ 11 00
New Dark Cuttings	6 50 nominal
No 1 White Linens	5 00 nominal
No 2 White Linens	5 00 nominal
No 3 White Linens	5 00 nominal
No 4 White Linens	5 00 nominal
Old Extra Light	2 00 nominal
Prints	1 75 nominal
Ord Light Prints	1 50 nominal
Med Light Prints	1 85 nominal
Dutch Blue Cottons	1 60 @ 1 70
German Blue Cot	3 50 nominal
tons	1 50 nominal
Ger Blue Linens	1 30 @ 1 35
Checks and Blues	1 00 @ 1 05
Dark Cottons	1 75 @ 2 00
Shoppers	
French Blues	

Bagging

Prices to Mill f o b N Y

Gunny No 1—	
Foreign	1 00 @ 1 10
Domestic	1 00 @ 1 10
Wool, Tares, light	1 45 @ 1 55
Wool, Tares, heavy	1 40 @ 1 50
Bright Bagging	1 05 @ 1 20
No 1 Scrap	1 05 @ 1 20
Sound Bagging	85 @ 95
Manila Rope—	
Foreign	5 75 @ 6 00
Domestic	6 00 @ 6 25
New Bu Cut	2 25 @ 2 45
Hessian Jute Threads—	
Foreign	2 25 @ 2 50
Domestic	2 20 @ 2 40
Mixed Strings	90 @ 1 00

Twines

Cotton—(F o b. Mill)	
No 1	35 @ 37
No 2	35 @ 37
No 3	37 @ 39

India, No 6 basis—	
Light	20 @ 21
Dark	19 @ 20
B C, 18 Basis	41 @ 42
A B Italian, 18	
Basis	51 @ 61
Finished Jute—	
Dark, 18 basis	29 @ 30
Light, 18 basis	26 @ 27
Jute Wrapping, 3 6	
Ply—	
No 1	23 @ 24
No 2	21 @ 22
Tube Rope—	
4-ply and larger	15 @ 17
Fine Tube Yarn—	
5-ply and larger	19 @ 21
4-ply	20 @ 22
3-ply	20 @ 22
Unfinished India—	
Basis	16 @ 17
Paper Makers Twine	
Balls	13 @ 15
Box Twine, 2 3 ply	18 @ 19
Jute Rope	17 @ 20
Amer Hemp 6	33 @ 35
Sisal Hay Rope—	
No 1 Basis	15 @ 17
No 2 Basis	13 @ 15
Sisal Lath Yarn—	
No 1	14 @ 15
No 2	11 @ 13
Manila Rope	18 @ 19

Old Waste Papers

(F o b. New York)

Shavings—	
Hard, White, No 1	4 20 @ 4 40
Hard, White, No 2	3 75 @ 4 15
Soft White, No 1	3 60 @ 3 80
Flat Stock—	
Stitchless	2 65 @ 2 70
Over Issue Mag	2 75 @ 2 75
Solid Flt Book	2 45 @ 2 50
Crumpled No 1	2 10 @ 2 15
Solid Book Ledger	3 00 @ 3 25
Ledger Stock	2 70 @ 2 80
New B B Chips	1 00 @ 1 10
Manilas—	
New Inv Cut	2 75 @ 2 90
New Cut No 1	2 00 @ 2 25
Extra No 1 Old	1 80 @ 1 90
Print	1 55 @ 1 65
Container Board	1 25 @ 1 35
Bogus Wrapper	1 10 @ 1 20
Old Krafts, machine compressed	
Bales	2 15 @ 2 25
News—	
No 1 White News	2 05 @ 2 20
Strictly Overissue	1 35 @ 1 40
Strictly Folded	1 20 @ 1 35
No 1 Mixed Paper	90 @ 95
Common Paper	70 @ 75

CHICAGO

(FROM OUR REGULAR CORRESPONDENT)

Paper	
F o b. Mill	
All Rag Bond	35 @ 40
No 1 Rag Bond	30 @ 35
No 2 Rag Bond	18 @ 25
Water Marked Sul	10 @ 14
phite	9 1/4 @ 12
Sulphite Bond	12 @ 14
Sulphite Ledger	18 @ 24
Superfine Writing	14 @ 20
No 1 Fine Writing	12 @ 20
No 2 Fine Writing	9 @ 12
No 3 Fine Writing	6 1/2 @ 7
No 1 M F Book	7 @ 7 1/2
No 1 S & S C.	8 1/4 @ 9
Book	8 1/2 @ 8 3/4
Coated Book	4 1/4 @ 4 1/2
Coated Label	4 1/4 @ 4 1/2
News—Rolls mill	4 1/4 @ 4 1/2
News—Sheets, mill	4 1/4 @ 4 1/2
No 1 Manila	5 1/4 @ 5 1/2
No 1 Fiber	4 1/4 @ 4 1/2
No 2 Manila	4 1/4 @ 4 1/2
Butchers' Manila	7 @ 7 1/2
No 1 Kraft	6 1/4 @ 7
No 2 Kraft	4 1/4 @ 5
Wood Tag Boards	3 @ 4
Screenings	
Boards, per ton—	
Plain Chip	All quotations withdrawn
Solid News	
Manila Lined	
Chip	
Container Line—	
85 Test	
100 Test	

Old Papers

Shavings—	
No 1 Hard White	4 15 @ 4 35
No 1 Soft Shav	3 75 @ 4 00
No 1 Mixed	1 65 @ 1 75
No 2 Mixed	1 65 @ 1 75
White Envel Cut	4 15 @ 4 35
tings	
Ledgers and Writ	3 00 @ 3 15
ings	
Solid Books	2 75 @ 3 00
No 1 Books Light	2 55 @ 2 70
Blanks	2 10 @ 2 35
Ex No 1 Manila	2 35 @ 2 50
Manila Envelope	2 40 @ 2 60
Cuttings	1 75 @ 2 00
No 1 Manilas	
Folders News (over	
issue)	1 65 @ 1 75
Old Newspaper	1 60 @ 1 70
Mixed Papers	1 50 @ 1 60
Straw Chippings	1 50 @ 1 60
Binders Chippings	1 50 @ 1 60
Kraft	2 50 @ 2 60
New Kraft Cuts	2 60 @ 2 75
Roofing Stock, f o b	
Chicago, Net Cash—	
No 1	26 00 @ —
No 2	24 00 @ —
No 3	22 00 @ —
No 4	22 00 @ —

PHILADELPHIA

(FROM OUR REGULAR CORRESPONDENT)

Paper	
Bonds	10 @ 60
Ledgers	15 @ 40
Writings—	
Superfine	15 @ 20
Extra fine	12 @ 22
Fine	20 @ 30
Fine, No 2	20 @ 25
Fine, No 3	15 @ 20
Book, M F	06 @ 11
Book S S & C	08 @ 15
Book Coated	08 @ 15
Coated Lithograph	10 @ 15
Label	08 @ 15
News	05 @ 07
No 1 Jute Manila	12 @ 13
Manila Sul, No 1	08 @ 10
Manila No 2	07 1/4 @ 08
No 2 Kraft	— @ 10
No 1 Kraft	— @ 11
Common Bogus	02 1/2 @ 03
Straw Board	67 50 @ 70 00
News Board	58 00 @ —
Chip Board	58 00 @ —
Wood Pulp Board	1 20 @ 1 25
(Carload Lots)	
Binder Boards—	
Per ton	80 00 @ —
Carload lots	80 00 @ —
Tarred Felts—	
Regular	48 00 @ 50 00
Slaters	54 00 @ 56 00

Best Tarred, 1 ply	1 35 @ 1 50
(per roll)	
Best Tarred, 2 ply	1 00 @ 1 15
(per roll)	
Best Tarred, 3 ply	1 50 @ 1 65
Bagging	
F o b Phila	
Gunny No 1—	1 10 @ —
Foreign	1 10 @ —
Domestic	1 10 @ —
Manila Rope	5 25 @ 5 75
Sisal Rope	75 @ 80
Mixed Rope	75 @ 80
Scrap Burlaps	1 00 @ 1 25
Wool Tares, heavy	2 50 @ 2 75
Mixed Strings	75 @ 80
No 1 New Lt Bur	1 75 @ 2 00
lap	
New Burlap Cut	1 75 @ 2 10
tings	
Old Papers	
F o b Phila.	
Shavings—	
No 1, Hard	4 00 @ 4 25
White	
No 2, Hard	3 50 @ 3 75
White	
No 1 Soft White	3 60 @ 3 75
No 2 Soft White	2 00 @ 2 25
No 1 Mixed	1 50 @ 1 75
No 2 Mixed	1 00 @ 1 25

(Continued on page 70)

Imports and Exports of Paper and Paper Stock

(Continued from page 64)

Castle & Overton, Inc., Chemnitz, 6,500 bls. wood pulp.
M. Cottesman & Co., Inc., N. Meckl., Christiania, 750 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING JANUARY 6, 1923

Castle & Overton, New Bremen, Hamburg, 350 bls. wood pulp.

Castle & Overton, West N. Y., London, 350 bls. waste paper.
C. M. Graves & Co., Inc., B. Hyatt, Manchester, 145 bls. waste paper.
First National Bank of Boston, N. Y., same, 390 bl. cotton waste.
Lane & McClelland, by same, 58 bls. cotton waste.
New England Waste Company, by same, 205 bl. cotton waste.
Hall & Cutler Company, by same, 115 bls. cotton waste.

Avies & Oddy Company, Inc., by same, 403 bls. cotton waste.
Textile Trading Company, by same, 34 bls. cotton waste.
Loring Brothers & Co., by same, 149 bls. paper stock.
Irving National Bank, by same, 15 bls. new cuttings.
F. Butterworth & Co., Inc., by same, 110 bls. paper stock, 150 bls. hide cuttings.
J. B. Moore & Co., by same, 68 bls. hide cuttings.
Ashworth, Speelman & Co., by same, 202 bls. hide cuttings.

Appeal for German Paper Makers

The *Papier-Zeitung*, Dessauer Strasse Nr. 2, Berlin S. W. 11, Germany, has requested the *PAPER TRADE JOURNAL* to reprint the following from its Third International Number, which explains itself:

Many an importing house abroad deriving big profits from its trade with German goods may have felt a desire to divert part of these profits towards allaying the hardships German workmen are subjected to. Such a desire would be the more comprehensible as everywhere, Germany not excepted, employers are assisting the workmen suffering from want, especially those in their own line of business, to the limit of their powers, whereas importers and exporters do their trade mainly through the efficiency of foreign workers.

In Germany, good care had been taken until lately of the veteran workman, inasmuch as every workman was granted, through State-managed insurance, from his 65th year on, a pension sufficient to eke out a living. Most workmen, besides, had saved up, through economy in their active years, a certain amount of their old age. The German worker has been protected, moreover, for many years, by State-managed insurance in cases of sickness and professional accidents. By the great depreciation of the German Mark, however, savings have lost their value, and the impoverished State is unable to increase even approximately the pensions old age and accident payments in such a way as to render them sufficient for anybody to live on. Thus the impoverished German workman is exposed to hardship and suffering.

An appeal and an example may be sufficient to find a solution of this problem satisfactory to both parties—to those who wish to give and those who are in need of gifts. If the example is set in one branch of business, it may be hoped that others will follow. Eugene Singer, of Milwaukee, who knows conditions in Germany by repeatedly staying in our country, has suggested that we publish an appeal suitable to the occasion, and we hereby take up his counsel. The firm of Eugene Singer, K. m. b. H., Berlin W. 30, Luitpoldstrasse 27, places the amount of M. 100,000—at our disposal, this sum to serve as a start for a collection for the benefit of German workers of the paper branch. We assign this amount to the Relief Association of the German Paper Industry in Chemnitz, Annaberstrasse 81, whose chairman, Herr Kommerzienrat Adolf Schinkel, of the Patent Paper Factory in Pöng, offers full guarantee that all contributions will be properly used for the afore-mentioned purpose. The Relief Association has been in existence for many decades; it takes care primarily of employees and workmen with a long record of service, who have been for the most part, members of the Association for many years; it assists likewise the widows and orphans of these members.

According to the statutes of the Association, not only people belonging to the paper and pulp manufacturing line, but also of the paper converting trade may become its members, but essentially the members belong to the paper manufacturing branch. If, as we confidently hope, our collection should yield a considerable amount,

it is our intention, with the assistance of the "League of German Associations of the Publishing, the Printing and Paper Converting Trades," to use a proper part of the amount for aiding persons in need belonging to the professions represented in the said League.

The Prussian Ministry for Public Welfare has approved of this collection. Donations from abroad should be addressed to the Editorial Offices of the "*Papier-Zeitung*," registered and made by check or bank notes, with a precise statement of the purpose for which the contribution is to be used, remittances from Germany should be sent through the Mail Check Account (Postschek-Konto) Berlin No. 18909 with the remark "*Papier-Zeitung Abteilungs Liebesgaben*." The contributions will be duly receipted in the "*Papier-Zeitung*."

Manufacture of Cordage and Twine, 1921

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 8, 1923. The Department of Commerce announces that reports made to the Bureau of the Census show a decrease in the activities of the establishments engaged primarily in the manufacture of cordage and twine during the year 1921 as compared with 1919. The total value of products reported amounted to \$74,712,000 in 1921 and to \$133,336,000 in 1919, a decrease of 44 per cent. In addition rope, cordage and twine to the value of \$3,473,000 in 1921 and \$9,163,000 in 1919 were reported by manufacturers whose chief products were jute and linen goods. Also, cordage and twine valued at \$8,958,000 were reported in 1919 by cotton mills and establishments in other industries; corresponding figures for 1921 are not available at this time.

The decrease in production has been accompanied by decreases in the number of persons employed, in the amount paid during the year in wages, and in the cost of materials used.

Of the 115 establishments reporting products valued at \$5,000 and more in 1921, 17 were located in New York, 14 in Pennsylvania, 13 in Massachusetts, 12 in Connecticut, 7 in Ohio, 6 each in Kentucky and New Jersey, 5 in Alabama, 4 each in North Carolina and Rhode Island, 3 each in Illinois and Missouri, 2 each in Michigan, South Carolina, Tennessee and Wisconsin, and 1 each in California, Delaware, Georgia, Indiana, Maine, Maryland, Minnesota, Mississippi, Oklahoma, Oregon, Texas, Virginia and Washington. Massachusetts, the leading State in the industry in 1921, reported 24.3 per cent of the total value of products in that year.

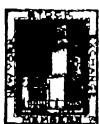
In December, the month of maximum employment, 16,031 wage earners were reported, and in July, the month of minimum employment, 11,806—the minimum representing 73.6 per cent of the maximum. The average number employed during 1921 was 14,496 as compared with 17,622 in 1919. The reports show that 5,213 or 36 per cent of the total (average) number of wage earners were employed 48 hours or less per week, 6,017, or 41.5 per cent, between 48 and 54 hours, and 3,264 or 22.5 per cent, 54 hours or more per week.

The returns indicate that the combined output of all establishments was approximately 65 per cent of the maximum capacity, based upon a demand requiring full running time.

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BLEACHABLE SULPHATE

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WHITE SPRUCE—GROUND WOOD

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Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
TUESDAY, January 9, 1923

BLEACHING POWDER—While dealers report an increased activity in the bleach market, prices have held in the neighborhood of 200 cents a pound throughout the past week. It is reported that this price is shaded a trifle on large quantity purchases.

BLANC FIXE—Maintaining the advance which occurred several weeks ago bringing the spot price to a range of \$85 to \$90 per ton, blanc fixe has been moving freely to mills since the beginning of the new year. Blanc fixe pulp has remained in a firm position at \$45 to \$50 per ton.

CAUSTIC SODA—Domestic prices on caustic soda have ruled quite firm throughout the past week, the contract figure of 250 cents a pound prevailing in the bulk of transactions. Caustic producers are gradually overcoming many of the difficulties which confronted them last Fall and Winter and prospects are that the steady demand from mills will further strengthen the market.

CHINA CLAY—Dealers in China Clay reported a satisfactory week's business with buying picking up after the holiday lull. Clay prices are regarded as firm, \$16 to \$23 per ton representing the average range of quoted prices on the imported qualities, while the domestic washed grade has been equally active at \$12 to \$15 and unwashed at \$9.50 to \$12.

CASIN—Casin dealers have for some time refused to sell on contract for more than a month in advance and frequently this period has been lessened to two weeks owing to the spotty character of Argentinian imports. For several months the market has been entirely in the hands of the seller, needy mills paying almost any price for the scarce milk by-product. The nominal contract price is still held at 21 to 22 cents a pound.

PAPERMAKERS' GLUE—Glue as a substitute for casin, is increasing in the demand of paper mills, a noticeable enlargement in demand having been noted in the past week. Quoted prices on standard grades of hide glue for use in tub sizing range from 13 to 20 cents a pound, depending upon the consistency.

ROSIN—No drastic price changes have entered the rosin market over the year end although the quotation of 700 cents a pound, ex dock New York for grades 1, 1 and 6 may be regarded as nominal. This quotation holds for barrels of 100-pounds, the Savannah, Ga. price averaging approximately 1 cent less.

SALTCAKE—Listed at \$27 to \$28 per net ton, f. o. b. producer, acid cake has held in steady demand and production facilities have improved to a certain extent. Chrome cake is still quoted at \$24 to \$25.

SODA ASH—As with other alkalis, soda ash has held quite firm during the first whole week's trading of the new year. Held to the schedule price of 120 cents a pound by the close competition this market has increased in strength as a result of improved consuming demand.

STARCH—Bag and barrel lots of the papermakers' grade of starch have been quoted throughout the week at 282 and 310 cents a pound respectively by several of the larger manufacturers of this commodity. Powdered starch remains in good call at 272 and 300 cents for these amounts.

SULPHATE OF ALUMINA—Transactions involving moderate-sized quantities of aluminum sulphate have been consummated during the past week at the price of 2.55 to 2.80 cents a pound, though production is still severely curtailed. The commercial grade quotes at 1.50 to 1.75 cents and the market has a strong tone.

SULPHUR—No change has entered the sulphur market with the coming of 1923 contract prices holding at the old schedule of \$18 to \$20 per ton. Buying is reported to have accelerated somewhat in the past week.

Market Quotations

(Continued from page 67)

Solid Ledger Stock	275	@	300	New Black Soft	06 1/2	@	06 1/2
Writing Paper	250	@	275	New Light Sec	02 1/2	@	02 1/2
No 1 Books, heavy	225	@	250	Books	03 1/2	@	03 1/2
No 2 Books, light	140	@	150	Khaki Cuttings	03 1/2	@	03 1/2
No 1 New Manila	275	@	300	Corduroy	03 1/2	@	03 1/2
No 1 Old Manila	150	@	175	New Canvas	07 1/2	@	08
Container Manila	135	@	140	New Black Mixed	04	@	04
Old Kraft	225	@	250	Old			
Overissue News	150	@	160	White, No 1—			
Old Newspaper	120	@	125	Repacked	06	@	06 1/2
No 1 Mixed Paper	110	@	115	Miscellaneous	04 1/2	@	04 1/2
Common Paper	100	@	110	White, No 2—			
Straw Board, Chip	100	@	110	Repacked	03	@	03 1/2
Linders Bd Chip	100	@	110	Miscellaneous	03	@	03 1/2
Domestic Rags—New				Thirds and Blues—			
Price to Mill, f o b Phila.				Repacked	200	@	225
Shirt Cuttings				Miscellaneous	185	@	190
New White, No 1	11 1/4	@	11 3/4	Black Stockings	275	@	300
New White No 2	06	@	07	Roofing Stock—			
Silicas No 1	06 1/2	@	07	No 1	130	@	135
New unbleached	10 1/2	@	11	No 2	120	@	125
Washables	03 1/2	@	04	No 3	110	@	115
Fancy	04 1/2	@	05 1/4	No 4	110	@	115
Cottons—according to grades—				No 5A	105	@	110
Blue Overall	05 1/2	@	05 3/4	B			nominal
New Blue	02 1/4	@	02 3/4	C			nominal

BOSTON

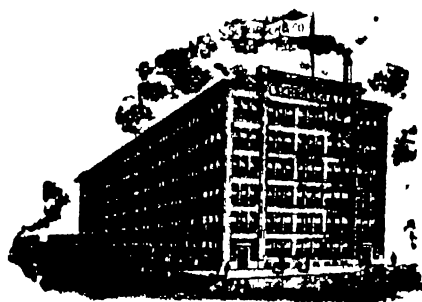
[FROM OUR REGULAR CORRESPONDENT]

Paper				Wood, Vat Lined	65 00	@	67 50
Bonds	08	@	50	Filled News Board	57 50	@	60 00
Ledgers	08 1/2	@	55	Solid News Board	65 00	@	70 00
Writings	08	@	42	S Manila Chip	70 00	@	75 00
Superfine	16	@	26	Pat Coated	85 00	@	92 50
Fine	15	@	18				
Books, S & S C	07 1/4	@	12	Old Papers			
Books M F	06 3/4	@	09 1/4	Shavings—			
Books, coated	09	@	15	No 1 Hard White	425	@	450
Label	08 1/2	@	13	No 1 Soft White	300	@	350
News, sheets	475	@	600	No 1 Mixed	125	@	150
News rolls	450	@	575	Ledgers & Writings	175	@	200
Manilas—				Solid Books	225	@	250
No 1 Manila	\$6 00	@	7 00	Blank	170	@	180
No 1 Fiber	06 1/2	@	07	No 2 Light Books	175	@	190
No 1 Jute	9 00	@	10 50	Folded News over			
Kraft Wrapping	07	@	08	Issues	26 00	@	28 00
Common Bogus	3 50	@	3 85	Gunny Bagging	85	@	90
Boards				Manila Rope	575	@	600
(Per Ton Destination)				Common Paper	60	@	70
Chip	\$52 50	@	\$57 50	Old News	80	@	90
News Vat Lined	57 50	@	60 00	Old Kraft	2 00	@	2 10

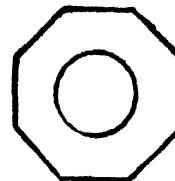
TORONTO

[FROM OUR REGULAR CORRESPONDENT]

Paper				Sulphate, bleached	100 00	@	105 00
(Mill Prices to Jobbers f o b Mill)				Sulphate	70 00	@	—
Bond—				Old Waste Papers			
Sulphite	11	@	12 1/2	(In carload lots, f o b Toronto)			
Light tinted	12	@	13 1/2	Shavings—			
Dark tinted	13 1/2	@	15	White Fnv Cut	3 85	@	—
Ledgers (sulphite)	—	@	13	Soft White Book			
Writing	09 1/2	@	12	Shavings	3 50	@	—
News, f o b Mills—				White Blk News	2 00	@	—
Rolls (carloads)	3 75	@	—	Book and Ledger—			
Sheets (carloads)	—	@	4 50	Flat Magazine and			
Sheets (2 tons or over)	—	@	4 75	Book Stock (old)	2 30	@	—
Book—				Light and Crum			
No 1 M F (car loads)	9 00	@	—	pled Book Stock	2 15	@	—
No 2 M F (car loads)	8 00	@	—	Ledgers and Writings	2 50	@	—
No 3 M F (car loads)	7 50	@	—	Solid Ledgers	2 50	@	—
No 1 S C (car loads)	9 50	@	—	Manilas—			
No 2 S C (car loads)	8 50	@	—	New Manila Cut	2 10	@	—
No 1 Coated and litho	14 00	@	—	Printed Manilas	1 75	@	—
No 2 Coated and litho	13 00	@	—	Kraft	2 50	@	—
No 3 Coated and litho	12 25	@	—	News and Scrap—			
Coated and litho, colored	14 25	@	—	Strictly Overissue	1 40	@	—
Wrapping—				Folded News	1 40	@	—
Grey	5 00	@	—	No 1 Mixed Papers	90	@	—
White Wrap	5 75	@	—	Domestic Rags—			
"B" Manila	6 00	@	—	Price to mills, f o b Toronto,			
No 1 Manila	7 25	@	—	Per lb.			
Fiber	7 25	@	—	No 1 White shirt			
Kraft, M. P.	8 00	@	—	cuttings	11	@	11 1/4
M G	8 15	@	—	No 2 White shirt			
Pulp				cuttings	06	@	—
(F o b Mill)				Fancy shirt cut			
Ground wood	\$40 00	@	\$50 00	tings	06	@	—
Sulphite easy bleach-				No 1 Old whites	04	@	—
ing	60 00	@	70 00	Thirds and blues	2 15	@	2 35
Sulphite news grade	55 00	@	60 00	Per cwt.			
				Black stockings	2 50	@	—
				Roofing stock			
				No 1	1 25	@	—
				No 2	1 00	@	—
				Roofing stock:			
				Manila rope	6 10	@	—
				No 2	1 50	@	—
				Gunny bagging	1 00	@	—

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HELP AND MISCELLANEOUS WANTS, and small **For Sale Ads**, 4 cents a word for each and every insertion. No ad of less than 25 words accepted.

When answering advertisements, please address the Box Number given in ad.

Answers can be forwarded care Paper Trade Journal and will be promptly forwarded without extra charge. All should be sent to the New York office, 10 East 39th street. And all should be addressed as the advertisement directs in every case and not simply to the paper.

All classified ads for the current issue must be in hand not later than Monday preceding date of publication.

HELP WANTED

WANTED at once two first class Machine Tenders and Beater Engineers on asbestos paper and millboard. None but high grade men need apply. State age married or single and references in first letter. Address Box 5734 care Paper Trade Journal. J-11

SUPERINTENDENT—Manager wanted for sulphite liquor by product plant. Must be familiar with various processes and have had successful experience in plant operation. State salary desired, experience, etc. Address Box 5707 care Paper Trade Journal. J-18

WANTED—Experienced cylinder machine tenders, back tenders and beater engineers for tooling mill located in the East 3 hours' work. Machine tenders \$50 per hour back tender and beater engineer 75c. No labor trouble. Send experience and reference in first letter. Address Box 5724 care Paper Trade Journal. J-11

WANTED—Three super calendar runners in mill making high grade book paper. Two tours. Address Box 5713 care Paper Trade Journal. J-11

SUPERINTENDENT WANTED for Spiral wound paper tube and car factory. Must be thoroughly competent. An unusual opportunity. State experience and salary required. Address Box 5712 care Paper Trade Journal. J-11

WANTED Finisher for Book Mill. Must be experienced in bundling paper. Rate on piece work basis averaging \$6.00 per day. Address Box 5711 care Paper Trade Journal. J-11

SALESMAN WANTED with established trade in paper, paper boards or twine in or adjacent to New York City. Address Great Notch Paper Co. Inc. 101 103 York Street New York. J-2

SALESMAN WANTED Salesman with experience in selling Waterproof Wrapping Paper to handle that line for a going concern. Address Box 5642 care Paper Trade Journal. J-18

THOROUGHLY COMPETENT and practical glassing big and envelope maker one who understands the manufacturing of these goods in detail. Excellent proposition to bright energetic young man. Address Export Paper Products Co. Post Office Box 665 New Orleans Louisiana. J-25

WANTED—Experienced Printing Paper Salesman for New England territory. Must be capable of earning good salary. State full experience in first letter. Address Box 5748 care Paper Trade Journal. J-11

NOTICE

When replying to advertisements which have a **BOX NUMBER** always make certain you have the correct **Box Number** on the address. This will insure your letter being sent to the right advertiser.

HELP WANTED

WANTED—Experienced Draftsman for paper mill in Middle West must be familiar with boiler house and building designing also construction. Give all information in first letter. Address Box 5686 care Paper Trade Journal. J-4

WANTED—Young man stenographer typist who has had experience in paper especially newsprint. Will have an opportunity to do some selling. Salary commensurate. Reply in detail giving age nationality experience. Address Box 5717 care Paper Trade Journal. J-11

WANTED—Will pay liberal commission to salesman recommending job lots of corrugated or fibre boxes from liquidating firms. Address Paper Products 1900 Washington Ave. Bronx New York. J-11

WANTED—One machine tender and one beaterman for Tooling Machine. Machine Kraft and Manila Wrapping Papers, width of machine 100 inch trim 8 hour shift. Address Box 5737 care Paper Trade Journal. J-11

WANTED—Three machine tenders, three back tenders and three beaterman for Yankee machine trimming 122 inch making Kraft and light weight papers 8 hour shift. Address Box 5758 care Paper Trade Journal. J-11

WANTED—General superintendent for mill making Kraft and Ground Wood Pulp and Kraft Manila and Light Weight Wrapping Papers. 3 paper machines. Apply giving full particulars and salary. Address Box 5759 care Paper Trade Journal. J-11

WANTED—Machine tender on small four-drummer making specialties. Must be capable of keeping machine in repair. Address with references Box 5768 care Paper Trade Journal. J-11

WANTED—A salesman having experience and able to sell Kraft Wrapping Paper to Jobbers and Converters. State age, experience, full experience. Address Box 5769 care Paper Trade Journal. J-18

WANTED—A first class envelope machine adjuster. Smiths machines to take full charge of 8-machine plant on Coast. State experience and salary wanted. All replies confidential. Address Box 5772 care Paper Trade Journal. J-2

SALESMEN—We want real salesmen. If you are afraid of hard work and can't prove your ability by selling on commission for a time, pass it up. Specialty men should be best fitted for our line of drinking cups. District managers will be selected from the first successful salesmen. State age, experience, present connection and territory. You are familiar with. Address Box 5771 care Paper Trade Journal. J-18

HELP WANTED

WANTED—Two experienced licensed boiler firemen. Men with stoker experience preferred. Address Box 5770, care Paper Trade Journal. J-11

CHINA CLAY—Wanted, men to sell as side-line on commission. One eastern mills, another western. One of the largest Corn-wall Co. S. All grades. Address Box 5785 care Paper Trade Journal. J-18

WANTED—**SALESMAN** for wrapping paper for New York City. We will give fullest co-operation and liberal drawing account. On account of increased business, we cannot take care of all our accounts and we need a hustler. We are in new quarters where we have three times as much room as we had and with increased stocks, we are ready for big business. A chance of a life-time for the right salesman. L. Hyman & Sons, 36 West Houston Street, New York City New York. J-11

SITUATIONS WANTED

WANTED—Position as paper mill superintendent, preferably in boxboard work with test liners as main output. Years of successful experience. Actual result will bear closest investigation. Address Box 5751 care Paper Trade Journal. J-11

ADVERTISER EXECUTIVE of large plant seeks position as manager and sales of small mill to make standard Kraft from cheap furnish new process little refining practically no extra equipment manufacturing cost low. For further particulars address Box 5753 care Paper Trade Journal. J-18

MECHANICAL ENGINEER, experienced in sulphite pulp mill now employed in paper mill desires to make change prefer production line. Best references. Address Box 5760 care Paper Trade Journal. J-11

WANTED Position as salesman having had experience in pulp and box board mills now employed as mechanical engineer. Unmarried ambitious. Good references. Address Box 5761 care Paper Trade Journal. J-11

SUPERINTENDENT or foreman familiar with felt Asbestos or Roofing Paper. 20 years with two largest mills in country as superintendent. Can handle all repairs. Best of references. Open for engagement January 15. Address Box 5762, care Paper Trade Journal. J-11

WANTED—Position as machine tender, experienced all grades. Best of references. Address Box 5765 care Paper Trade Journal. J-18

SITUATION WANTED by a graduate mechanical engineer with 12 years broad experience in the paper industry, the last seven as an executive. Experienced in design, construction, layouts and installations. Age 35 married. Highest references. Correspondence solicited. Address Box 5766 care Paper Trade Journal. J-11

CYLINDER MACHINE TENDER wishes position. 15 years' experience on box board, container, etc. Married, steady and good references. Address Box 5788, care Paper Trade Journal. J-11

ENTHUSIASTIC, EXECUTIVE TYPE YOUNG MAN, 22, possessing a general knowledge of pulp and paper manufacture as a foundation now seeks opportunity for business career with manufacturer or dealer. Requisites: One year college education, three years occupancy of responsible mill position, clean personality. Available immediately. Address Box 5740, care Paper Trade Journal. J-11

HELP WANTED

WOOD PULP

Executive and sales manager, with 16 years' successful marketing experience buying and selling foreign and domestic pulps. Has thorough knowledge of the business with wide acquaintance and valuable connections and affiliations both here and abroad. Is well familiar with various pulp brands, qualities and sources of supply, and principal paper mill requirements. Will soon be open to consider connection with well recognized and financially strong importer, Dealer or Agency firm. Would also consider taking over the direct selling responsibility of large Domestic or Foreign Pulp Mill account that are seeking intelligent service and efficient results and are willing to remunerate accordingly. Can furnish A-1 references. Address: Box 5790 care Paper Trade Journal J-11

WANTED

Waxed Paper Salesman For sale of plain and printed papers in New York and adjacent territory.

Answers stating age, experience with references will be treated confidential. Address: Box 5767 care Paper Trade Journal J-25

Local Representative

Boston, New York, Philadelphia, Baltimore, New Orleans

\$10,000 a year opportunity for live wire paper salesman with executive ability in each of these cities with established concern, having unexcelled foreign and domestic mill connections. Must be thoroughly experienced in wrappings to large consumers and converters. State age, experience, references, etc. Address: Box 5789 care Paper Trade Journal J-11

SITUATIONS WANTED

PAPER SALESMAN—Young man Active hard worker Good address Several years selling experience including some time with Coarse Paper mill. Desires connection with high grade New York Paper Dealer or Mill Office. Address: Box 5717 care Paper Trade Journal J-15

BOXBOARD—A man thoroughly experienced in the manufacture of high grade box boards including straw board and light straw would make charge 10 years present position especial ability in construction and maintenance as well as operation. Lost of results in handling help. Can furnish best of references. Address: Box 5720 care Paper Trade Journal J-18

SUPERINTENDENT open for position 20 years' experience in the manufacture of all the better grades of combination and container board. Can get quality and production. Thoroughly familiar with repairs, maintenance and operation of every department of mill. Can furnish the very best of references. Address: Box 5811, care Paper Trade Journal J-11

SITUATIONS WANTED

SUPERINTENDENT desires position 18 years experience in the manufacture of tissues all grades equally efficient in either wood or stock. High grade man in wadding tissues all grades twines and carpet fibres for twisting Kraft papers of quality and strength. Thoroughly understands the converting of crepe and waxed papers. A No. 1 on color. References. Address: Box 5726 care Paper Trade Journal J-15

PAPER MAKER of ability, understands paper from A to Z. Eighteen years jobbing experience, desires to connect with good reliable house as manager or buyer. Understands the twine and cordage business thoroughly. References. Address: Box 5727 care Paper Trade Journal J-11

MISCELLANEOUS

PROPOSALS

FOR FURNISHING

PAPER FOR THE PUBLIC PRINTING AND BINDING

SEALED PROPOSALS will be received until 10 o'clock a. m. January 29, 1923 in the room of the Joint Committee on Printing in the Capitol, Washington, D. C. for furnishing the paper for the public printing and binding for the term of 12 months or one year beginning the 1st day of March 1923. The proposals will be opened in the presence of and the awards of contracts made by the Joint Committee on Printing to the lowest and best bidder for the interest of the Government whose bids are in conformity with the requirements of the proposal. The Committee reserves the right to reject any or all bids or to accept any bid or any part and reject the other part in its opinion such action would be in the interest of the Government.

Bids, proposals containing the instructions, schedule and specifications accompanied by standard samples may be obtained by addressing George H. Carter, Public Printer, Washington, D. C.

Contracts will be entered into for supplying the quantities required whether more or less than the estimates.

The approximate estimated quantities set forth in detail in the schedule comprise:

2,040,000 pounds newsprint paper 4,500,000 pounds machine finish printing paper 1,000,000 pounds plant fiber machine finish printing paper 50,000 pounds antique printing paper 50,000 pounds opaque printing paper high machine finish 480,000 pounds rag machine finish printing paper 1,190,000 pounds sized and supercalendered printing paper 150,000 pounds half tone printing paper 255,000 pounds coated book paper 4,000 pounds U. S. M. O. white and blue writing paper machine dried 1,500 pound white French folio paper 1,805,000 pounds writing paper high machine finish 5,805,000 pounds writing paper or left dried, 2,500 pounds fine white writing paper left dried 10,000 pounds safety writing paper 500,000 pounds U. S. M. O. blue safety writing paper 140,000 pounds map paper 871,500 pounds bond paper 845,000 pounds ledger paper 1,600 pounds tissue paper 320,000 pounds cover paper 5,000 sheets cloth lined cover paper 1,012,000 pounds manila and kraft paper 15,000 pounds manila typewriter paper 420,000 pounds manila board 30,000 pounds cardboard 2,500 pounds Bristol board 7,000,000 pounds U. S. Postal Card cream Bristol board 12,000 pounds index Bristol board 1,500 pounds white paraffin paper 4,250 pounds noncurling gummed paper 3,000 pounds blotting paper 5,500 pounds stereotype molding paper 15,000 pounds offset paper for web presses, 2,500 pounds plate wrapping paper for embossing presses, 6,000 pounds lining and striping paper 1,000 pounds red pre-shaded 500 pounds news board, 500,000 pounds chip board 50,000 pounds strawboard 40,000 pounds box board lined 780,000 pounds binder's board.

In cases where more than 1,000 reams are called for, proposals will be received for 1,000 reams or more.

By direction of the Joint Committee on Printing

GEORGE H. CARTER
Public Printer

WASHINGTON, D. C. December 6, 1922

MISCELLANEOUS

SHARTLE

can fill your requirements in used or new machinery

**THE SHARTLE BROTHERS
MACHINE CO.**

Middletown

Ohio

TF

WANTED Super-calender 5 or 7 roll stock. Around 50" width. State price and conditions. Address: Box 5754 care Paper Trade Journal J-25

WANTED—Experienced paper salesman wishes to buy paper or cardboard business or form partnership with responsible paper salesman. Correspondence confidential. Address: Box 5755 care Paper Trade Journal J-11

Rebuilt Paper Mill Machinery IN STOCK AND GUARANTEED

Not Where Is and As Is

FOURDRINER TISSUE MACHINE—One 68" FOURDRINER PARTS—Pusey & Jones 112" 100" equipped with new Century Shake 96" Kutter Trowbridge

PRESS PARTS FOR PAPER MACHINES—Pusey & Jones bell crank housings and Black & Clawson swing arm housings Press rolls 20 x88"

DRYERS—Four 48"x111" One 36"x80" Two 30"x84" Two 36"x74" Four 48"x72" Four 48"x68" One 84"x67" Eleven 42"x66" Eight 36"x62" Two 36"x48" Four 20"x39"

CHILLED CALINDERS—One 86" six roll One 82" five roll One 66" five roll One 58" five roll One 54" five roll

SLITTERS AND WINDERS—One 120" Warren One 108" Kidder One 110" two drum Moore A White winder One 82" Langston One 46" Langston One 40" Kidder

FEATHERS—Three N & W 72"x42" One Hol yoke 54"x60" equipped with four Tyler washers. One Dills 62"x50" iron tub One Jones 62"x52" One Dillon 60"x48" Two Emerson 54"x60" Three Downingtown 54"x42" iron tub One Jones 42"x38" Seven Horne 36"x36" One N & W 36"x26" Two No 2 Claflins Two No 1 Claflins

JORDANS—One Appleton Wagg Majestic Two No 2 Dillin Improved One Large Horne. Two Monarch One Jones Standard One Pope brushing

SCREENS—One 12 plate Two 8 plate open side Packer Two 6 plate Three White auxiliary and one Moore & White auxiliary One single cylinder Wandel

STUFF PUMPS—Deane triplex 9"x8" Goulds triplex 8"x12" Goulds triplex 6"x12" Beloit du plex 6"x14" Twelve 5" jet

REVOLVING SHEET CUTTERS—One 82", 62" and 48" Clark Four 60" Hamblets Four 60" Finlays One 50" Hamblet diagonal

REAM CUTTERS—Two 48" Acme One 44" Hol yoke Seybold

SUPER CALENDERS—One 52", one 45", one 42" one 36" Hilyokes

WET MACHINES—Four 72" Bagley & Sewall hydraulic One 58" Noble & Wood

One 50" Farrel Board Calendar

One Manistee Hog Chipper

One Ryther & Pringle Shredder

We have a large number of pumps and over five hundred calender, press and couch rolls in stock.

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2 Digesters

8 10"x25' high, almost
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plete

Lot of Steel and Wooden Tanks

Horizontal and vertical, all sizes

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68" Sandy Hill Cylinder Machine Right hand
tracing the wet end Very good condition
Three vats practically new Three couch rolls
Three cylinders One Millspaugh suction
roll Two 16" presses Seventeen 36" x 64"
two deck dryers Ten roll stack of calenders,
bottom roll 18" and intermediate rolls 10" in
diameter Two bowl reel Slitter and Re-
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265 feet per minute and open to inspection
Can run paper from 30 to 140 lbs Well
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Tissues or Specialties To avoid storing, this
machine can be bought at a very low price for
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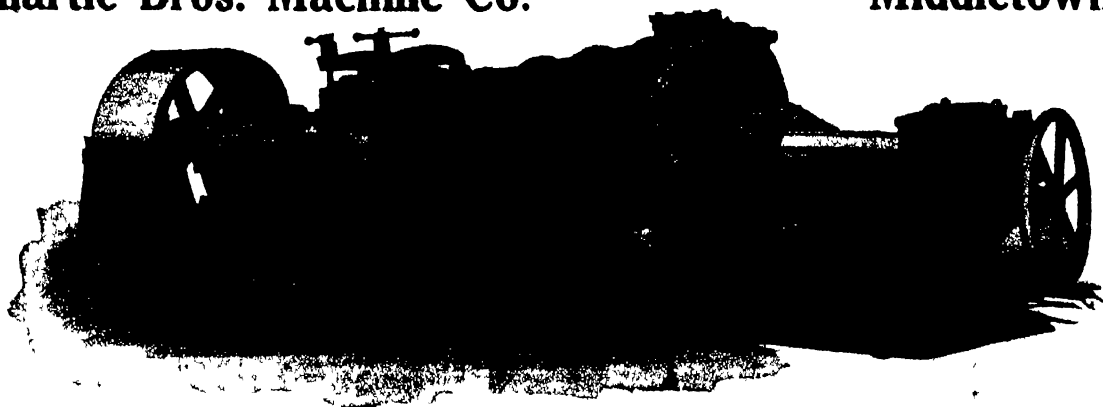
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Niagara Life Bldg., Buffalo, N. Y.

The Shartle Bros. Machine Co.

Middletown, Ohio



SITUATIONS WANTED

WANTED—Position as assistant superintendent or foreman. Twenty-two years experience on fourdrinier machine making sulphite and rag papers. Principally writings, bonds and ledgers. Address, Box 5595, care Paper Trade Journal J-11

PAPER SALESMAN, New York City, who can produce large amount of business, would like connection with Paper House or organization, having good mill facilities. Drawing account on commission basis. Address, Box 5596, care Paper Trade Journal J-11

WELL EDUCATED YOUNG MAN with 12 years practical experience, wishes position as superintendent, assistant superintendent or assistant manager with any reliable concern. Will go anywhere. Best of references furnished. Address, Box 5651 care Paper Trade Journal J-20

POSITION WANTED by a party thoroughly experienced in the exporting of paper to Cuba, Mexico, South America, Japan, China and Australia and having an intimate knowledge extending over 20 years in the importing of all kinds of paper from England, France, Germany, Scandinavia and Finland together with a thorough knowledge of English and German and a working knowledge of French and Spanish. Location in this country no object. Address, Box 5619 care Paper Trade Journal J-11

EXECUTIVE of large plant wants management and sales of small mill (fourdrinier machine) to make specialty of great promise. Address Box 5700, care Paper Trade Journal J-11

SUPERINTENDENT desires to make change. Experienced on book, bond, kraft and Manila papers. Practical and executive ability. Address, Box 5693, care Paper Trade Journal J-25

ENGINEER—Draftsman, maintenance, repairs and rebuilding along economical lines. Eighteen years experience with sulphite ground wood and paper mills. Competent to design, superintend and erect. Will go anywhere. Address Box 5773 care Paper Trade Journal J-18

FIRST CLASS MAN wants position as Machine tender on roofing or backtender on Board. Thoroughly competent for both jobs. Will accept backtender on roofing if job pays enough. Best references. Address Box 5774 care Paper Trade Journal J-18

SUPERINTENDENT wants position. Twenty years experience on blotting, hard fibers, book news, hanging colored specialties and finer grades. Good executive. Best references. Address Box 5775, care Paper Trade Journal J-11

WANTED—Position as superintendent or production manager of mill making book, bond, ledgers etc. Twenty-nine years old married. At present running a sixty-ton book and bond mill. Address Box 5776 care Paper Trade Journal J-25

SITUATIONS WANTED

POSITION as superintendent or assistant in the envelope or paper goods line. Forty years of age, twenty years' practical experience in the manufacturing office estimating and buying, understanding all branches of the envelope line. Address Box 5777 care Paper Trade Journal J-2

BEATER ENGINEER, 12 years experience on box board, wall board, news and book. desires position. Married, 35 years old. Can furnish references. Address, Box 5778 care Paper Trade Journal J-11

DESIGNING ENGINEER, 14 years of wide experience designing and laying out pulp and paper mills, including revamping and all equipment and process work pertaining to same also complete design of boiler houses etc. desires change. Best of references. Address Box 5779, care Paper Trade Journal J-11

YOUNG MAN wants position as Super Calendar Runner. Have eight years experience. Can give good references. Address, Box 5786 care Paper Trade Journal J-25

POSITION WANTED by machine tender on Tissue, Harper, Cylinder or Edwards Machine. Experienced on all grades of tissues. Address Box 5787, care Paper Trade Journal J-11

EXPERT ON COLORS—Practical paper maker 15 years' experience on various grades also first class color man with experience as demonstrator with largest color manufacturers seeks position as boss beater engineer or assistant superintendent or in similar capacity. Address, Box 5788 care Paper Trade Journal J-25

MISCELLANEOUS

WANTED—To purchase outright or half interest in small going paper jobbing business in New York City. State full particulars in strict confidence. Address Box 5792 care Paper Trade Journal J-15

WANTED One Hambley Duplex Cutter 50 inches or over. State particulars and price. Address Box 5793 care Paper Trade Journal J-11

SELLING ORGANIZATION with quite a large business with the jobbers of Virginia, North and South Carolina wishes agency for Manufacturer of Self Opening and Square Paper Bags. Address Box 5794 care Paper Trade Journal J-25

WANTED—USED EQUIPMENT - 2 complete 10-ton Fourdrinier Paper Mills or separate parts for same. One 75 to 100 h.p. Variable speed engine. W. V. Sullivan, Call Building San Francisco California J-22

WANTED—Cast iron dryers diameter 36" x 48" to 54" face. O. S. Kirkby Room 706 61 Broadway, New York J-11

MISCELLANEOUS

CASH PAID for old United States Confederate and foreign postage stamps used on letters prior to 1870. Send samples James Hardy 4522 Forrestville Ave., Chicago, Ill. oam-1-yr

FOR SALE

FOR SALE—6 Farnum Drives. Complete triple-deck frames for 44 Dryers. Will arrange terms to suit. Chesapeake Paper Board Co. Baltimore Maryland. J-11

FOR SALE—Deane Duplex Fire Pump, 14x 8 1/2x10 capacity 600 gallons per minute. Address Box 5482 care Paper Trade Journal J-11

FOR SALE—Machine for splicing, coating and rewinding. This machine is new has not been used. Takes from 18 inches to 48 inches wide. Will sell at a bargain. Address Box 5780 care Paper Trade Journal J-9

FOR SALE Ashcroft paper tester with case, all in perfect condition. Price \$12.00. Address Box 5781 care Paper Trade Journal J-11

TRANSFORMERS FOR SALE

3—Allis-Chalmers Bullock 1000 KVA single phase transformers, shell type, OIWC, 30 cycles, 49,000 volts primary, 2200 secondary

3—Allis-Chalmers Bullock 1250 KVA single phase transformers, shell type OIWC, 30 cycles, 49,000 volts primary, 2200 volts secondary

6—Westinghouse 600 KVA single phase transformers, shell type, OIWC, 60 cycles, 55,000 volts primary, 575 volts secondary

All in first class condition

For further details and specifications, Address, P. O. Box 2790, Montreal, Quebec

J-11

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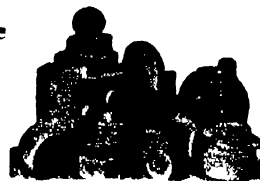
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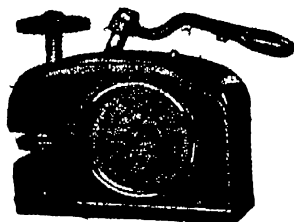
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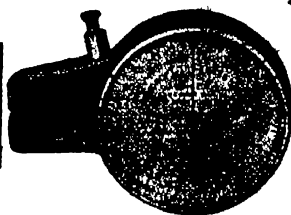
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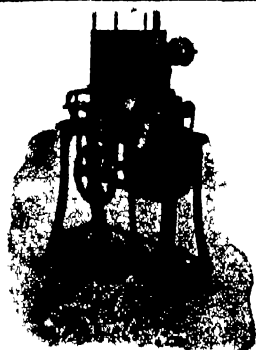
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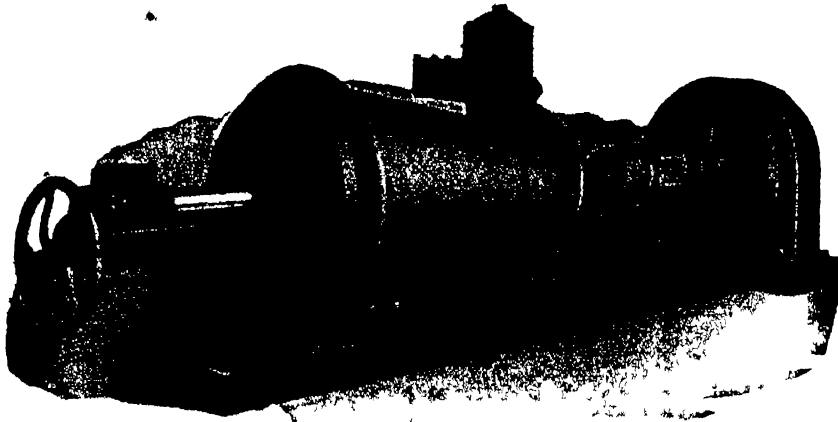
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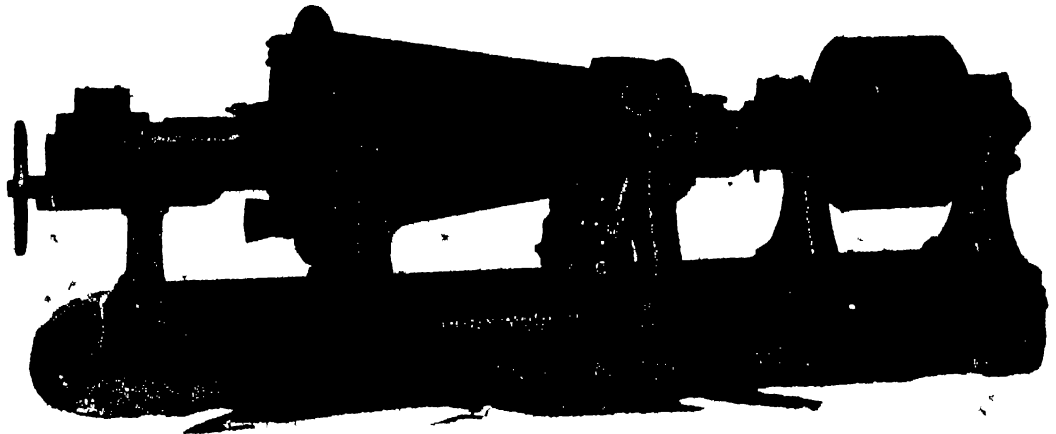
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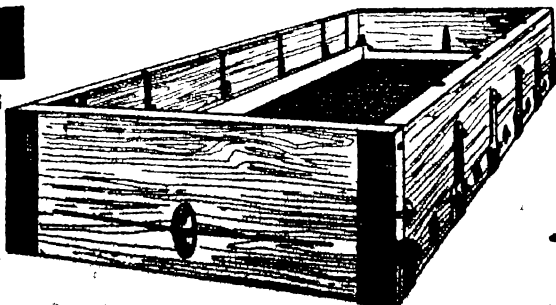
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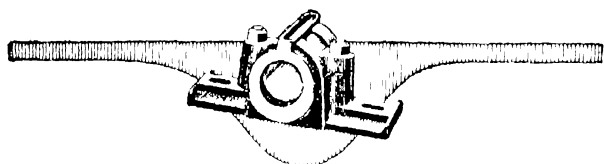
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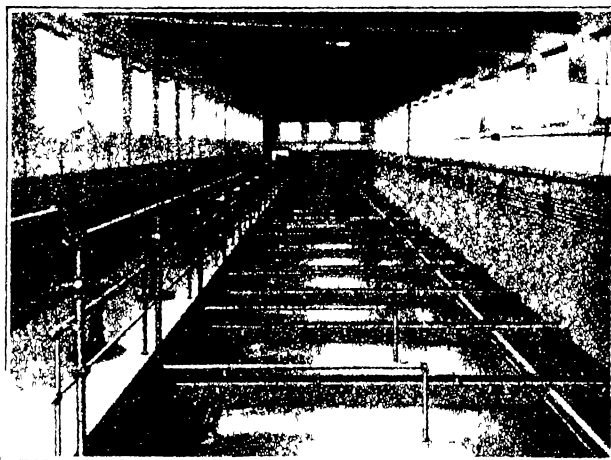
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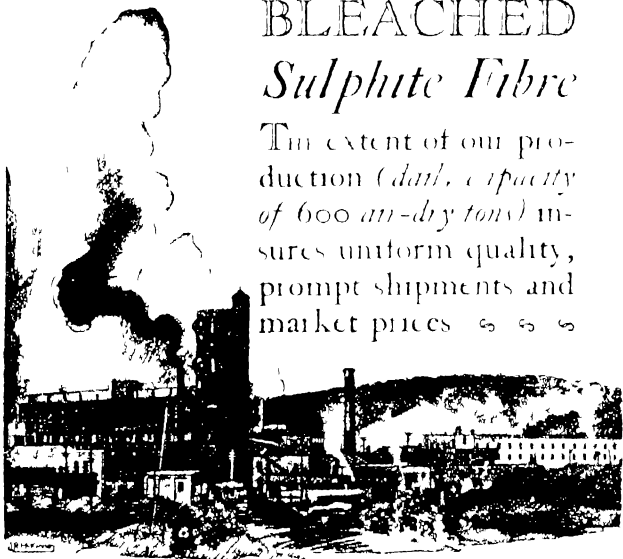
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Butchers' Manila
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Manufacturers of

TARZAN Fibre Shipping Cases

General Sales Offices

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648 McCormick Bldg**

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1117 Farmers Bank Bldg**

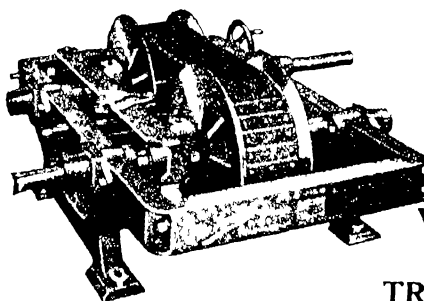
DIC Cutting Dies



Accurate - Durable

Illustrated Booklet
on Request

INDEPENDENT DIE COMPANY, Inc.
2641 LA SALLE STREET ST. LOUIS, MO



**VARIABLE
SPEED
TRANSMISSION**

WHAT IS IT? A variable speed mechanism

WHAT WILL IT DO? Decrease and increase speed

WHAT ON? Any machine requiring variable speeds

WHERE? Winder Rewinder Corrugator, Paster, etc

WHEN? Whenever you want to

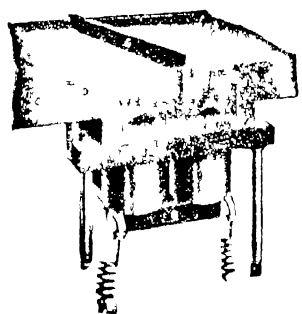
HOW? By turning an adjusting wheel

WHAT DOES IT COST? Nothing - Saves cost after installed

HOW CAN I PROFIT? Put your speed problem up to us

Ask for Engineers' Manual

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Columbus, Indiana



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Paper**

We know that one of the most important factors in paper making is that of cleansing. We designed and constructed our Type "B" IRON EXTRACTOR with a view toward effecting greater satisfaction in the cleansing processes and the success with which this device has met during its ten years on the market is sufficient proof of its efficiency.

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spun and woven by skilled American workmen will always be used in the making of *Appleton Felts* and *Jackets*

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**LOFT DRIED PAPERS
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SOUTH WINDHAM, CONN

THE SMITH & WINCHESTER MFG. CO.

MANUFACTURERS OF

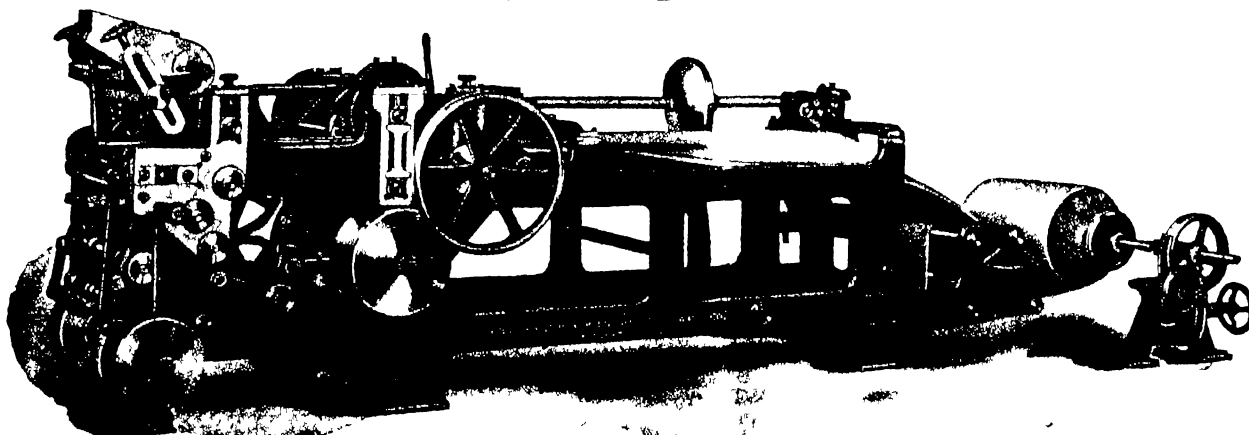
PAPER BAG MAKING MACHINERY

AS ILLUSTRATED AND DESCRIBED IN BULLETIN NO 10

PAPER MAKING—PAPER CUTTING MACHINERY

FOURDRINIER—CYLINDER—WET MACHINES
JORDAN ENGINES—PUMPS—CALENDERS—REELS—CUTTERS—WINDERS—ROLLS
THE RAINSTORM SHOWER PIPE—COLLAPSIBLE CORES

DIE CUTTING PRESSES



OUR NO 4 NATIONAL BAG MACHINE FOR THE PRODUCTION OF FLOUR, CEMENT AND LIME SACKS; ALSO CHARCOAL BAGS

The Board of Directors and Officers of

J. F. Patton & Co., Inc.

*announce that on the first of January 1923,
the name of the Company
will be changed to*

Mead, Patton & Co., Inc.

112 Madison Avenue
New York City

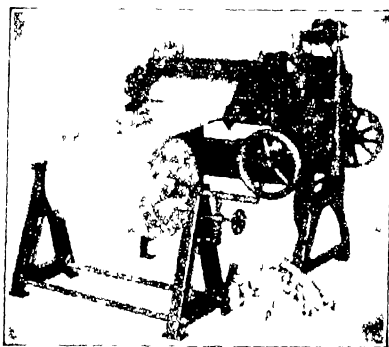
Dietz Toilet Paper Machinery

AND LATEST IMPROVED PATENTED

Automatic Tube Machines

For Making Tubes for Toilet
Paper Rolls, Paper Towel Rolls

Capable of pro-
ducing 3,600



Patented Feb. 22 1916 May 18 1920

Toilet Tubes

per hour direct
from roll

Towel Tubes

are made at rate
of 1,800 per hour
Substantially built
and fully guaran-
teed

Toilet Paper Machines for making Toilet Rolls with or without perforations and machines for making Sanitary Crepe Paper Towels, Punch Presses for Sheet Toilet Paper, Drop Roll Slitters, Slitting and Rewinding Machines Side and Center Seam Merchandise Envelope Machines Photo Mount Beveling Machines Candy Bag Machines Punch Presses for Playing Cards Rotary Card Cutting and Collating Machines Etc.

DIETZ MACHINE WORKS

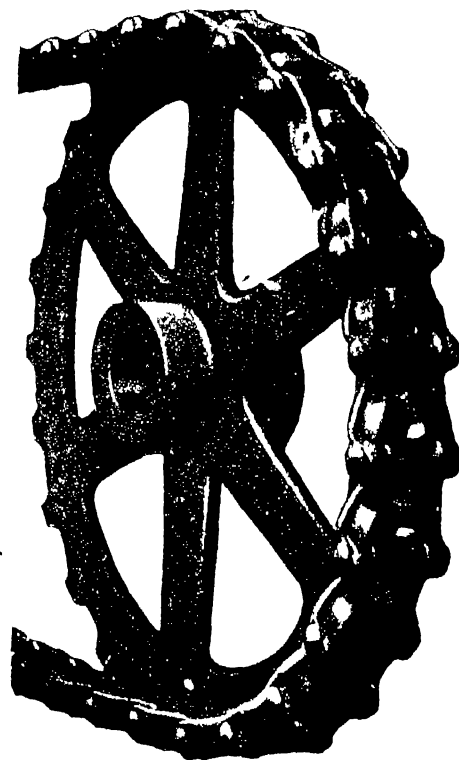
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A good
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Service
Chain for
Elevators
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and Power
Trans-
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Jeffrey Chains for Paper and Pulp Mill Service

to select the chain and sprocket which can
handle all the requirements of your mill
here is a list of the most common
requirements to be obtained

*There's a type for every purpose
Write for our Chain Catalog*

Jeffrey standard Material Handling Machinery
includes Pulpwood Stackers, Conveyors, and
Elevators for handling Logs, Pulpwood, Pulp
Lumps, Straw, Bark, etc., Coal and Ashes Hand-
ling Equipments, Skip Hoists, Crushers,
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JEFFREY

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For all classes
of work

We can offer a desirable and dependable
source of supply

Let us quote on your requirements

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Lawrence, Mass

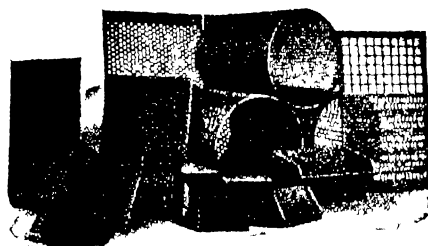
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5

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*Engineers and Builders of Pulp & Paper Mill
Machinery*

Competent Engineers to design, build and lay out
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Designs Specifications and Plans gladly submitted

We specialize in

Barkers Chippers Grinders

Shredders Wood Washers

Chip Crushers Chip Screens

Wet Machines Pumps

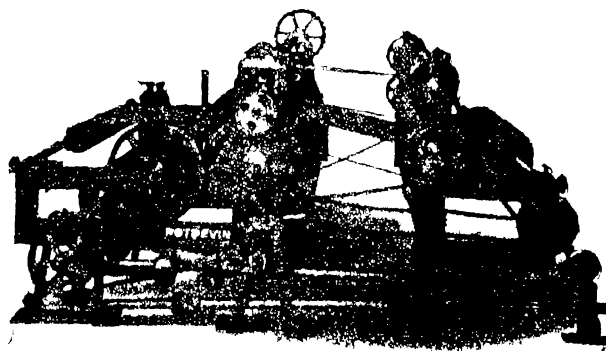
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Acid-proof Bronze

Brass and Lead Fittings

Office and Factory: Carthage, New York

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**MACHINERY
ON DISPLAY THIS WEEK**

POTDEVIN MACHINE CO.

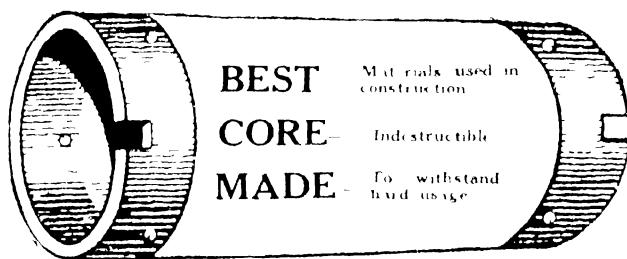
1223 38th Street, Dept 12 Brooklyn, N Y.

Phone Berkshire 5906-5907

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The Use of ELIXMAN CORES

protects your rolls and insures their delivery, to your customer, in perfect condition. They eliminate claims for damages.



Your two sources of supply are

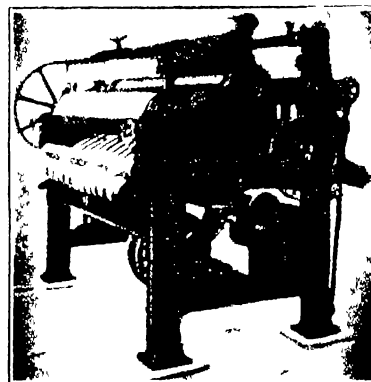
Canadian Elixman Co
HAMILTON, ONTARIO

Elixman Paper Core Co
CORINTH, N. Y.

THE CLARK-AIKEN CO.

Successors to

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PAPER MILL MACHINERY
LEE, MASS.

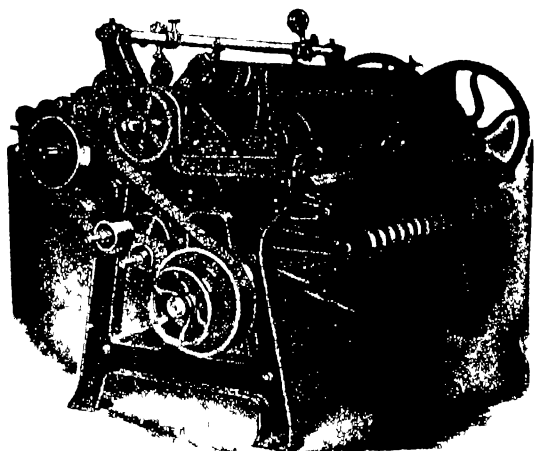


Revolving Paper Cutters—Rag Cutters—Cylinder Paper Machines—Washing and Beating Engines—Chilled Iron and Paper Calenders—Fan and Stuff Pumps—Engine Roll Bars and Bed Plates—

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Single, Duplex and Diagonal



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Paper manufacturers generally recognize the value of starch in the manufacture and coating of paper.

To obtain definite results in any desired direction in the preparation of paper, not merely a difference of grade, but a difference of kind or variety of starch is required.

Our carefully controlled and thoroughly standardized processes enable us to produce exactly the various starches which the paper industry has found economical and efficient.

Corn Products Refining Company
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Starch



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A Complete Line

Toilets—Napkins—Towels

Every Fort Howard Product is a Quality Product when the price they are sold for and the use they are put to is considered. The line is complete and every article in it is sold through the medium of the Jobber.

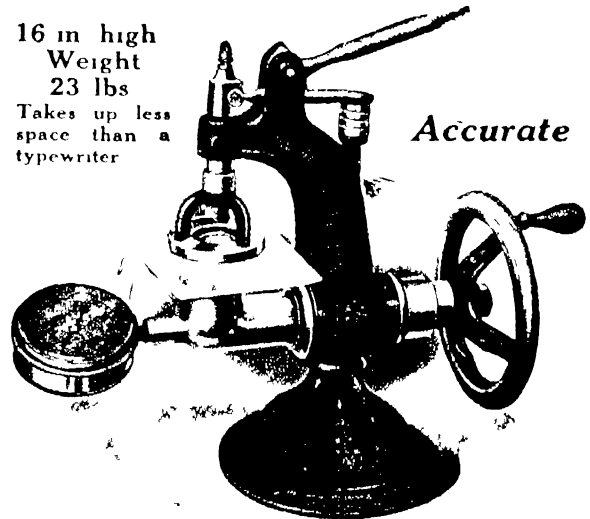
Fort Howard Paper Co.

Green Bay, Wis

16 in high
Weight
23 lbs

Takes up less
space than a
typewriter

Accurate



The Mullen Paper Tester is PRACTICAL

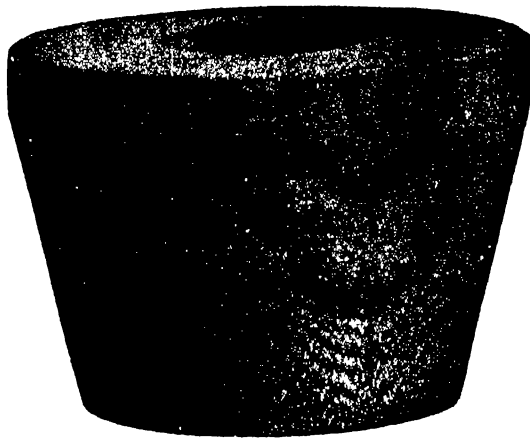
because of the direct relation of the standard Mullen Test of bursting strength to actual working conditions. The fibers burst at the weakest spot of the paper, exactly as would be the case with a sufficient strain on paper in actual use.

For full particulars write Dept. P 2

B F PERKINS & SON, INC., Holyoke, Mass



Wood Plugs



For paper rolls, made to pattern under shop names in four sizes as follows: CARD, 3", MANILLA, 2 1/4", NEWS, 2 1/2", DRUG, 2 3/8", 1 3/4" in length, having 1" hole, and tumble polished when shipped. You should if possible, adjust your needs to these stock sizes, with prospect of prompt shipping in carlots or less, thereby avoiding serious delays in waiting for something special. Samples cheerfully furnished.

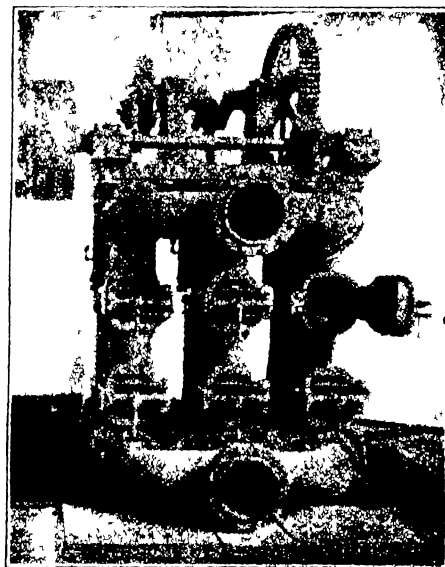
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Builders of All Types of Paper Making
Machines and Machinery



for
PAPER
and
PULP
MILLS

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our work is built right.*

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52 VANDERBILT AVENUE, NEW YORK, N. Y.

Sole Agents in U S A, Canada Mexico and Cuba for

FINNISH CELLULOSE ASSOCIATION, HELSINGFORS, FINLAND

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FINNISH WOOD PULP UNION, HELSINGFORS, FINLAND

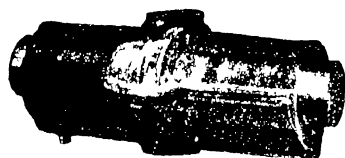
POWER TRANSMISSION MACHINERY

AND

AGITATOR EQUIPMENT

FOR

PULP AND PAPER MILLS



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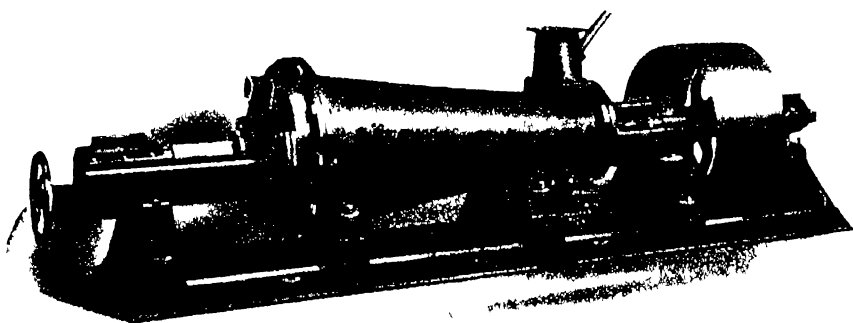
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THE HILL CLUTCH CO.

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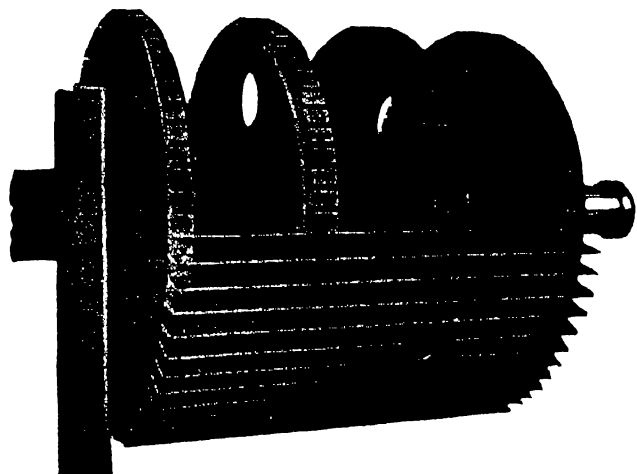
LAWRENCE, MASS

See the Second Hand Machinery ads and
 note the ABSENCE of

EMERSON BEATING ENGINES

They seldom wear out and are never
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 TION. NO "PADDLING"

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 does its work with half the power required
 by others of no greater capacity
 WRITE FOR DETAILS



Dilts Machine Works, Inc.

Fulton, N. Y., U. S. A.

Manufacturers of

BEATING and WASHING ENGINES

FLY BARS—BED PLATES—

MACHINE KNIVES

Our new KEYED TYPE BANDLESS ROLL is the final
 result of many Years of Experience

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We offer a full line of

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and furnish precise directions on application for

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Half a century's experience enables us to furnish goods answering requirements
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THE HELLER & MERZ CO.

BOSTON CHICAGO NEW YORK PHILADELPHIA SPRINGFIELD, MASS

BOARD MILLS!

Why use heavy, close, expensive Plite and
B B press felts on 2nd, 3rd and 4th presses?

KENWOOD ONE-SIDED FINE AND SUPER PRESS FELTS

give the required finish at a higher rate of production and much less cost

Maximum satisfaction in finish, test, service and production is secured through use of the above felts in combination with Kenwood One-Sided Bottom and Kenwood One-Sided Superfine Top Felts



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KENWOOD MILLS, Albany, N. Y.
KENWOOD MILLS Ltd., Arnprior, Ontario, Canada



Anchor Brand Sulphite and Kraft Pulp

THE Iggesund grades of Sulphite and Kraft Pulp are among the best made in Sweden

They possess uniform color, consistent strength and fibres of good quality

We act as sole selling agents for the Iggesund Mill and can keep our customers regularly supplied with this grade

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75-77 DUANE STREET, NEW YORK

Established 1838

PAPER TRADE JOURNAL

FIFTY-FIRST YEAR

LOCKWOOD TRADE JOURNAL COMPANY, INC.

J W VAN GORDON Vice-President

10 EAST 39TH ST N Y U S A

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Washington Office - I. M. Lamm 63 Home Life Bldg
Western New England News Office - Michael Connor Holyoke
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LOCKWOOD'S DIRECTORY OF THE PAPER
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Per year \$9

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NEW YORK AND CHICAGO

Thursday, February 1, 1923

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$$f_{\text{eff}} = \frac{1}{2} \left(\frac{1}{f_{\text{eff}}^{\text{eff}}} + \frac{1}{f_{\text{eff}}^{\text{eff}}} \right) \quad (5)$$

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ANNUAL BIDS OPENED FOR GOVERNMENT PAPER

Joint Congressional Committee on Printing Opens Bids for Paper for Use of the Government Printing Office on Monday of This Week—Tenders Are Received for Six Months, Twelve Months or Both Periods

Subject to Usual Qualifications—Committee Will Meet Monday, February 5, for the Purpose of Making the Awards—List of Concerns Represented in the Bidding

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C. January 29, 1923. Bids were opened at the Office of the Joint Committee on Printing for the supply of paper for the Government Printing Office based either on the supply for the six months, 12 months, or both periods and subject to qualifications as noted below. The Committee will meet on Monday, February 5, for the purpose of making the awards. The following bids were received:

White News Print

- No 1—40,000 lbs. 24x36-32, rolls 19 ins wide
 Dohler & Madge, Baltimore, Md. 6 months 44c
 International Paper Company, New York City 6 months 43c
- No 2—2,000,000 lbs., 24x36-32, rolls, 48 ins wide
 Dohler & Madge 6 months 44c
 Maurice O'Meara Company, New York City 6 months 40c
 International Paper Company, New York City 6 months 43c

Machine-Finish Printing, No 1

- No 3—300,000 lbs. 25x38-35, cut 24x32 ins flat
 Bryant Paper Company, Kalamazoo, Mich. 6 months 7c
 The Allied Paper Mill, Kalamazoo, Mich. 6 months 7.67c
 International Paper Company, New York City 6 months 7.7c
 Old Dominion Paper Company, Norfolk, Va. 6 months 7.85c
 1 year 7.8c
- No 4—1,000,000 lbs. 25x38-35, cut 24x38 and 38x48 ins flat
 Bryant Paper Company 6 months 7.74c
 Allied Paper Mills 6 months 7.77c
 International Paper Company 6 months 7.7c
 Old Dominion Paper Company 6 months 7.85c 1 year 7.8c
- No 5—1,000,000 lbs. 25x38-35, cut 24x38 and 38x48 ins flat
 Bryant Paper Company 6 months 7.74c
 Allied Paper Mills 6 months 7.67c
 The International Paper Company 6 months 7.7c
 Old Dominion Paper Company 6 months 7.85c 1 year 7.8c
- No 6—1,600,000 lbs. 25x38-35, rolls 18, 19, 21 and 23 ins wide
 Bryant Paper Company 6 months 7.7c
 Old Dominion Paper Company 6 months 8.80c 1 year 8.80c
- No 7—1,000,000 lb. 25x38-35, roll 38 and 48 ins wide
 Bryant Paper Company 6 months 7.7c
 The Allied Paper Mill 6 months 7.7c
 Old Dominion Paper Company 6 months 7.7c 1 year 8.64c
 (a)
- No 8—1,000,000 lb. 25x38-35, rolls 38 and 48 ins wide
 Bryant Paper Company 6 months 7.7c
 Allied Paper Mills 6 months 7.7c
 Old Dominion Paper Company 6 months 7.7c 1 year 8.64c
 (a)
- No 9—1,000,000 lbs., 25x38-35, rolls 38 and 48 ins wide
 Bryant Paper Company 6 months 7.7c
 Allied Paper Mills 6 months 7.7c
 Old Dominion Paper Company 6 months 7.7c 1 year 8.64c
 (a)
- (c) Under our bid we offer 500,000 pounds to be distributed over the three lots 7, 8, and 9 is best suits the Public Printer under our bid for one year we will fill all requirements for either the six months of the year
- No 10—200,000 lbs., 25x38-40, rolls 38 and 48 ins wide
 P. H. Cluttfelter Company, Spring Grove, Pa. 6 months 6.49c
 1 year 6.49c
 Bryant Paper Company 6 months 6.8c
 Allied Paper Mills 6 months 6.82c
 Old Dominion Paper Company 6 months 8.45c 1 year 8.45c
 The Whittaker Paper Company, Philadelphia, Pa. 6 months 7.03c
- No 11—400,000 lbs., 25x38-40, cut 24x38 and 38x48 ins flat
 P. H. Cluttfelter Company 6 months 6.74c 1 year 6.74c
 Bryant Paper Company 6 months 7.4c
 Allied Paper Mills 6 months 7.37c
 The International Paper Company 6 months 7.12c
 Old Dominion Paper Company 6 months 9.537c, 1 year, 9.537c
 Whittaker Paper Company 6 months 7.53c (a)
 (a) Reduction of 15 cents if packed in skeleton frames.

- No 12—250,000 lbs., 25x38-40, rolls, 36¼ ins wide
 P. H. Cluttfelter Company 6 months 6.49c 1 year 6.49c
 Bryant Paper Company 6 months 6.8c
 Allied Paper Mills 6 months 6.82c
 Old Dominion Paper Company 6 months 8.45c 1 year 8.45c
 Whittaker Paper Company 6 months 7.03c (a)
 (a) Reduction of 15 cent if packed in skeleton frames
- No 13—80,000 lbs. 25x38-50, rolls 33¼ ins wide
 P. H. Cluttfelter Company 6 months 6.49c 1 year 6.49c
 Bryant Paper Company 6 months 6.8c
 Allied Paper Mills 6 months 6.82c
 International Paper Company 6 months 6.47c
 Old Dominion Paper Company 6 months 7.99c 1 year 7.99c
 Whittaker Paper Company 6 months 6.8c (a)
 (a) Reduction of 15 cents if packed in skeleton frames
- No 14—350,000 lbs. 25x38-50, cut 24x38, 28x40, 32x42, 38x48, and 41x52 ins, flat
 P. H. Cluttfelter Company 6 months 6.74c 1 year 6.74c
 Bryant Paper Company 6 months 7.7c
 Allied Paper Mills 6 months 7.67c
 International Paper Company 6 months 6.97c
 Old Dominion Paper Company 6 months 7.24c 1 year 7.24c
 R. P. Andrews Paper Company, Washington, D. C. 6 months 6.97c
 The Whittaker Paper Company 6 months 7.7c (a)
 (a) Reduction of 15 cents per 100 lbs. if packed in skeleton frames
- No 15—300,000 lbs. 25x38 ins 60 and 70 cut 29x41 and 38x48 ins flat (the grain of sheet to run is ordered)
 P. H. Cluttfelter Company 6 months 6.74c 1 year 6.74c
 Bryant Paper Company 6 months 7.7c
 Allied Paper Mills 6 months 7.67c
 Old Dominion Paper Company 6 months 9.18c 1 year 9.18c
 R. P. Andrews Paper Company 6 months 6.97c
 The Whittaker Paper Company 6 months 7.7c (a)
 (a) Reduction of 15 cent per 100 lbs. if packed in skeleton frames
- No 16—20,000 lb. salmon 25x38 ins 50 flat min order 5,000 lbs
 The Plant Paper Company 6 months 8.03c
 The Whittaker Paper Company 6 months 8.2c (a)
 (a) Reduction of 15 cents per 100 lbs. if packed in skeleton frames

Plant-Fiber Machine-Finish Printing, No 1

- No 17—500,000 lbs. 25x38-40, rolls 19, 38 and 48 ins wide
 No bids
- No 18—500,000 lbs. 25x38-40, rolls 19, 38 and 48 ins wide
 No bids

Antique Printing

- No 19—50,000 lbs., 25x38-50, cut 25x38, 29x41, and 38x50 ins flat
 Bryant Paper Company 6 months 8.12c
 Allied Paper Mills 6 months 7.018c
 International Paper Company 6 months 7.2c
 Old Dominion Paper Company 6 months 7.449c 1 year 7.499c
 Whittaker Paper Company 6 months 7.5c (a)
 (a) Reduction of 15c per 100 lbs. if packed in skeleton frames

Opaque Printing, High Machine Finish

- No 20—50,000 lbs., 25x38-30, cut 32x48 and 38x48 ins flat
 Bryant Paper Company 6 months 10.9c
 Old Dominion Paper Company 6 months 10.99c 1 year 10.99c

Rag Machine-Finish Printing

- No 21—100,000 lbs., 25x38-40, cut 32x48 ins flat
 Bryant Paper Company 6 months 10.2c
 Old Dominion Paper Company 6 months 9.999c 1 year 9.999c
 Whittaker Paper Company 6 months 11.5c (a)
 (a) Reduction of 15c per 100 lbs. if packed flat in skeleton frames
- No 22—150,000 lbs., 25x38-40, cut 38x48 ins flat
 Bryant Paper Company 6 months 10.2c
 Old Dominion Paper Company 6 months 9.999c, 1 year, 9.999c
 Whittaker Paper Company 6 months 11.5c (a)
 (a) Reduction of 15c per 100 lbs. if packed in skeleton frames.

No. 23—150,000 lbs, 25x38—40, cut 38x48 ins flat

Bryant Paper Company, 6 months, 10.2c
 Old Dominion Paper Company, 6 months 9.99c, 1 year, 9.99c
 The Whitaker Paper Company, 6 months 11.5c (a)
 (a) Reduction of 15c per 100 lbs if packed in skeleton frames

No. 24—40,000 lbs, 25x38—40 and 45, cut any size flat, max width 42 ins

Bryant Paper Company, 6 months 10.2c
 Old Dominion Paper Company, 6 months 9.99c, 1 year 9.99c
 The Whitaker Paper Company, 6 months 11.9c (a)
 (a) Reduction of 15c per 100 lbs if packed in skeleton frames

No. 25—40,000 lbs, 25x38—40 and 45, cut any size, flat max width 42 ins

Bryant Paper Company, 6 months 10.2c
 Old Dominion Paper Company, 6 months 9.99c, 1 year 9.99c
 The Whitaker Paper Company, 6 months 11.9c (a)
 (a) Reduction of 15c per 100 lbs if packed in skeleton frames

Sized and Supercalendered Printing (Sample A)**No. 26—70,000 lbs, 25x38—45, cut 24x32 and 32x48 ins flat**

Bryant Paper Company, 6 months 7.6c
 Old Dominion Paper Company, 6 months 9.94c, 1 year 9.94c (a)
 The Whitaker Paper Company, 6 months 8.13c (b)
 (a) Reduction of 20c per 100 lbs if packed in skeleton frames
 (b) Reduction of 15c per 100 lbs if packed in skeleton frames

No. 27—600,000, 25x38—45, cut 31x45 ins flat

Bryant Paper Company, 6 months 7.6c
 Old Dominion Paper Company, 6 months 9.94c, 1 year 9.94c (a)
 The Whitaker Paper Company, 6 months 7.87c (b)
 (a) Reduction of 20c per 100 lbs if packed in skeleton frames
 (b) Reduction of 15c per 100 lbs if packed in skeleton frames

No. 28—1,000,000 lbs 25x38—45, cut 24x38 and 38x48 ins flat

Bryant Paper Company, 6 months 7.6c
 Old Dominion Paper Company, 6 months 9.94c, 1 year 9.94c (a)
 The Whitaker Paper Company, 6 months 7.87c (b)
 (a) Reduction of 20c per 100 lbs if packed in skeleton frames
 (b) Reduction of 15c per 100 lbs if packed in skeleton frames

No. 29—1,500,000 lbs 25x38—45, rolls, 38 ins wide

Bryant Paper Company, 6 months 7.14c
 Old Dominion Paper Company, 6 months 8.96c, 1 year 8.96c (a)
 R. P. Andrews Paper Company, 6 months 7.99c
 The Whitaker Paper Company, 6 months 7.7c (b)
 (a) Reduction of 20c per 100 lbs if packed in skeleton frames
 (b) Reduction of 15c per 100 lbs if packed in skeleton frames

No. 30—10,000 lbs 25x38—45 and 50 cut any size, flat, max width 42 ins

Bryant Paper Company, 6 months 7.6c
 Old Dominion Paper Company, 6 months 9.4c, 1 year 9.49c (a)
 (a) Reduction of 20c per 100 lbs if packed in skeleton frames

Sized and Supercalendered Printing (Sample B)**No. 31—10,000 lbs, 25x38—40 and 45, cut any size, flat max width 42 ins**

Bryant Paper Company, 6 months 10.45c
 The Whitaker Paper Company, 6 months 11.3c (a)
 (a) Reduction of 15c per 100 lbs if packed in skeleton frames

Halftone Printing**No. 32—150,000 lbs 25x38—70 cut 24x38 and 38x48 ins flat**

Bryant Paper Company, 6 months 8.9c
 Allied Paper Mills, 6 months 7.51c
 International Paper Company, 6 months 7.47c
 Old Dominion Paper Company, 6 months 8.99c, 1 year 8.99c (a)
 R. P. Andrews Paper Company, 6 months 8.39c
 The Whitaker Paper Company, 6 months 7.9c
 (a) Reduction of 20c per 100 lbs if packed in skeleton frames

Single-Coated Both Sides Book**No. 33—70,000 lbs, 25x38—70, cut any size flat, max width 42 ins**

Bryant Paper Company, 6 months 9.23c
 Allied Paper Mills, 6 months 9.09c

Double-Coated Both Sides Book (Sample A)**No. 34—150,000 lbs, 25x38—70 and 80, cut any size, flat, max width 42 ins**

Bryant Paper Company, 6 months 9.72c
 Allied Paper Mills, 6 months 10.59c

Double-Coated Both Sides Book (Sample B)**No. 35—35,000 lbs 25x38—70 and 80 cut any size, flat, max width 42 ins**

Bryant Paper Company, 6 months 13.22c

U S M O Writing**No. 36—4,000 lbs, White and Blue Machine dried No 16, rolls, 38 ins wide**

No bids

White French Folio**No. 37—1,500 lbs No 10, cut 17x22 ins flat, min order, 750 lbs.**

Dobler & Mudge, 6 months 13c, 1 year 13c
 R. P. Andrews Paper Company, 6 months 13c, 1 year 13c

Writing, White and Colored, High Machine Finish**No. 38—25,000 lbs, No 13, cut 23x32 ins flat**

The Champion Paper Company, 6 months 9.18c, 1 year 9.18c
 International Paper Company, 6 months 8.07c
 The Actna Paper Company, Dayton, Ohio, 6 months 10.72c, 1 year 10.72c
 Old Dominion Paper Company, 6 months 11.49c, 1 year 11.49c
 The Whitaker Paper Company, 6 months 11.10c

No. 39—400,000 lbs, No 16 cut 21x32 and 26x34 1/2 ins flat

The Champion Paper Company, 6 months 8.88c, 1 year 8.88c
 International Paper Company, 6 months 7.62c
 The Actna Paper Company, 6 months 9.42c, 1 year 9.42c
 Old Dominion Paper Company, 6 months 8.47c, 1 year 9.74c
 The Whitaker Paper Company, 6 months 8.4c

No. 40—600,000 lbs, No 20 cut 17x28 and 21x32 ins flat

The Champion Paper Company, 6 months 8.88c, 1 year 8.88c
 International Paper Company, 6 months 7.47c
 The Actna Paper Company, 6 months 9.42c, 1 year 9.42c
 Old Dominion Paper Company, 6 months 8.314c, 1 year 9.49c
 R. P. Andrews Paper Company, 6 months 7.36c
 The Whitaker Paper Company, 6 months 8.4c

No. 41—60,000 lbs No 13 rolls, min width 8 ins, max width 38 ins

The Champion Paper Company, 6 months 8.43c, 1 year 8.43c
 International Paper Company, 6 months 7.5c
 Old Dominion Paper Company, 6 months 9.79c, 1 year 10.49c
 The Whitaker Paper Company, 6 months 10.10

No. 42—40,000 lbs No 16, roll min width 8 ins, max width 48 ins

The Champion Paper Company, 6 months 8.38c, 1 year 8.38c
 International Paper Company, 6 months 7.12c
 Old Dominion Paper Company, 6 months 8.52c, 1 year 9.79c
 The Whitaker Paper Company, 6 months 8.74c

No. 43—600,000 lbs, No 20 rolls min width 8 ins, max width 48 ins

The Champion Paper Company, 6 months 8.08c, 1 year 8.08c
 International Paper Company, 6 months 6.77c
 Old Dominion Paper Company, 6 months 7.864c, 1 year 8.019c
 R. P. Andrews Paper Company, 6 months 6.22c
 The Whitaker Paper Company, 6 months 7.76c
 (a) Quantity for the first 6 months to be delivered by August 30, 1923, to be made to suit purchaser

No. 44—30,000 lbs, blue, green, pink and yellow, Nos 11 and 13, cut 17x28, 21x32 and 22x34 ins flat

Old Dominion Paper Company, 6 months 16.44c, 1 year 16.49c

No. 45—80,000 lbs, blue, green, pink and yellow, Nos 16 and 20, cut 17x28, 21x32 and 22x34 ins flat

The Actna Paper Company, 6 months 10.98c, 1 year 10.98c
 Old Dominion Paper Company, 6 months 10.99c, 1 year 10.99c

White Writing, Tub-Sized, Air or Loft Dried**No. 46—150,000 lbs No 13 cut 23x36, 24x38 and 28x34 ins flat**

The Actna Paper Company, 6 months 13.11c, 1 year 13.11c
 The Whitaker Paper Company, 6 months 16.06c

No. 47—800,000 lbs, No 16 cut any sizes flat, min width 17 ins max width 32 ins

The Actna Paper Company, 6 months 10.72c, 1 year 10.72c
 The Whitaker Paper Company, 6 months 13.11c

No. 48—100,000 lbs, No 10, cut 22x4 x 31 1/2 ins

The Actna Paper Company, 6 months 10.72c, 1 year 10.72c
 The Whitaker Paper Company, 6 months 13.41c

No. 49—1,100,000 lbs, No 20 cut any size, flat, min width 17 ins, max width 32 ins

The Actna Paper Company, 6 months 10.72c, 1 year, 10.72c
 The Whitaker Paper Company, 6 months, 13.11c

No 50 1100000 lbs. No 20 cut any size, flat, min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1072c 1 year 1072c
The Whitaker Paper Company 6 months 1111c

No 51 700000 lbs. No 24 cut any size flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1072c 1 year 1072c
The Whitaker Paper Company 6 months 1111c

No 52 700000 lbs. No 24 cut any size, flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1072c 1 year 1072c
The Whitaker Paper Company 6 months 1111c

No 53 500000 lbs. No 36 cut 19x24 and 20x28 ins. flat

The Atlas Paper Company 6 months 1144c 1 year 1144c

Colored Writing, Tub-Sized, Air or Loft Dried

No 54 250000 lbs. blue buff green dark pink light pink salmon and yellow No 16 cut any size flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

No 55 350000 lbs. blue buff green dark pink light pink salmon and yellow No 20 cut any size flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

No 56 350000 lbs. blue buff green dark pink light pink salmon and yellow No 20 cut any size flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

No 57 100000 lbs. blue buff green dark pink light pink salmon and yellow No 24 cut any size flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

No 58 100000 lbs. blue buff green dark pink light pink salmon and yellow No 24 cut any size flat min width 17 ins. max width 32 ins.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

Fine White Writing Tub Sized and Loft-Dried

No 59 250000 lbs. No 28 and 32 cut 21x32 ins. flat min order, 2500 lbs.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

Safety Writing, Machine Finish

No 60 100000 lbs. blue buff green dark pink salmon and yellow No 20 cut 17x28 21x32 and 22x34 ins. flat

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

J S M O Blue Safety Writing Machine Finish, Safety or Sensitive Design

No 61 500000 lbs. No 16 and 22 cut 11 and 22 ins. wide

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

Map, Lithograph Finish (Sample A)

No 62 600000 lbs. Nos 16 and 20 cut any size flat max width 44 ins.

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

The Atlas Paper Company 6 months 1144c 1 year 1144c
The Whitaker Paper Company 6 months 1144c

Map, Lithograph Finish, Tub-Sized, Air or Loft Dried (Sample B)

No 63 800000 lbs. No 16 and 20 cut any size flat max width 44 ins.

Dobler & Mudge 6 months 174c 1 year 174c

Old Dominion Paper Company 6 months 16479c 1 year 16794c
15864c 1 year 15864c
Whitaker Paper Company 6 months 1811c 1 year 1811c
Holyoke

Thin Bond, White and Colored, Glazed and Unglazed, Tub-Sized, Machine or Air Dried

No 64 160000 lbs. white, No 9, cut 17x28, 19x24, 21x32, and 22x34 ins. flat

Dobler & Mudge 6 months 187c 1 year 187c
The Old Dominion Paper Company 6 months 18889c 1 year, 18889c

K. I. Andrews Paper Company 6 months 1878c 1 year 1878c
The Whitaker Paper Company 6 months 1897c

No 65 300000 lbs. white, No 13 cut 21x32 24x38 and 28x34 ins. flat

Dobler & Mudge 6 months 181c 1 year 181c
The Atlas Paper Company 6 months 1311c 1 year 1311c

Old Dominion Paper Company 6 months 18289c 1 year 18289c
K. I. Andrews Paper Company 6 months 1813c 1 year 1813c
The Whitaker Paper Company 6 months 1797c

No 66 50000 lbs. buff green pink salmon and yellow No 9 cut 17x28 21x32 and 22x34 ins. flat

The Old Dominion Paper Company 6 months 2024c 1 year 2024c

No 67 200000 lbs. blue buff green pink salmon and yellow, No 13 cut 21x32 24x38 and 28x34 ins. flat

The Atlas Paper Company 6 months 1187c 1 year 1187c
Old Dominion Paper Company 6 months 1295c 1 year 1295c

K. I. Andrews Paper Company 6 months 1295c 1 year 1295c

Stationery Bond White and Colored, Glazed and Unglazed, Tub Sized Air or Loft Dried

No 68 100000 lbs. white Nos 16 and 24 cut 17x28 18x23 and 21x32 ins. flat

Dobler & Mudge 6 months 1144c 1 year 1144c
The Atlas Paper Company 6 months 1072c 1 year 1072c

Old Dominion Paper Company 6 months 1811c
The Whitaker Paper Company 6 months 1144c

No 69 500000 lbs. white No 20 cut any size flat min width 17 ins. max width 32 ins.

Dobler & Mudge 6 months 1144c 1 year 1144c
The Atlas Paper Company 6 months 1072c 1 year 1072c

Old Dominion Paper Company 6 months 1811c
The Whitaker Paper Company 6 months 1144c

No 70 300000 lbs. white No 20 cut any size flat min width 17 ins. max width 32 ins.

Dobler & Mudge 6 months 1144c 1 year 1144c
The Atlas Paper Company 6 months 1072c 1 year 1072c

Old Dominion Paper Company 6 months 1811c
The Whitaker Paper Company 6 months 1144c

No 71 100000 lbs. blue green pink salmon and yellow, Nos 16 and 20 cut any size flat min width 17 ins. max width 32 ins.

Dobler & Mudge 6 months 181c 1 year 181c
The Atlas Paper Company 6 months 1144c 1 year 1144c

Fine Bond, White, Glazed and Unglazed, Tub-Sized and Loft-Dried

No 72 250000 lbs. Nos 16 20 and 24 cut 16x21 and 17x22 ins. flat

The Atlas Paper Company 6 months 181c
The Whitaker Paper Company 6 months 3146c

Declaration Bond, Tub-Sized and Loft-Dried

No 73 50000 lbs. No 20 cut 17x22 ins. flat min order 2,000 lbs.

Sudworth Company, Mattineus, Mass. 1 year 35c
K. I. Andrews Paper Company 6 months 37c

Parchment Deed

No 74 10000 lbs. Nos 32 and 36 cut 33x34 ins. flat min order 1000 lbs.

Sudworth Company 1 year 35c
K. I. Andrews Paper Company 6 months 197c

Commercial Ledger, White, Tub-Sized, Air or Loft Dried

No 75 80000 lbs. No 28 cut 17x28, 18x28, 21x32 28x29, and 28x34 ins. flat

Dobler & Mudge 6 months 205c 1 year, 205c

The Acton Paper Company 6 months 13.82c 1 year 13.82c
 The Old Dominion Paper Company 6 months 15.978c 1 year 18.068c
 R. L. Andrews Paper Company 6 months 17.93c 1 year 17.93c
 Carow Manufacturing Company South Hadley Falls, Mass., 6 months 21.4c
 The Whitaker Paper Company 6 months 16.97c

No 76—60,000 lbs, No 32, cut 21x32 and 23x36 ms flat

Dobler & Mudge 6 months 20.5c 1 year 20.5c
 The Acton Paper Company 6 months 13.82c 1 year 13.82c
 Old Dominion Paper Company 6 months 17.978c 1 year 18.068c
 R. L. Andrews Paper Company 6 months 17.93c 1 year 17.93c
 Carow Manufacturing Company 6 months 21.4c
 The Whitaker Paper Company 6 months 16.97c

No 77—130,000 lbs, Nos 36 and 40 cut 19x24 20x28, and 21x32 ms flat (Strength shall be not less than 58 points, No 40)

Dobler & Mudge 6 months 19.5c 1 year 20.5c
 The Acton Paper Company 6 months 13.8c 1 year 13.82c
 Old Dominion Paper Company 6 months 17.97c 1 year 18.068c
 R. L. Andrews Paper Company 6 months 17.9c 1 year 17.93c
 Carow Manufacturing Company 6 months 21.4c
 The Whitaker Paper Company 6 months 16.97c

No 78 50,000 lbs, No 48 cut 21x32 ms flat (Strength shall be not less than 65 points)

Dobler & Mudge 6 months 20.5c 1 year 20.5c
 R. L. Andrews Paper Company 6 months 17.93c 1 year 17.93c
 Carow Manufacturing Company 6 months 21.4c
 The Whitaker Paper Company 6 months 16.97c

Commercial Ledger Colored Tub Sized, Air or Loft Dried

No 79 70,000 lbs, Blue buff green pink salmon and yellow Nos 28, 32 and 36 cut 17x28 18x36 19x24 21x32 and 23x36 ms flat

Dobler & Mudge 6 months 21.5c 1 year 21.5c
 The Acton Paper Company 6 months 14.2c 1 year 14.2c
 Old Dominion Paper Company 6 months 17.97c 1 year 18.068c
 The Whitaker Paper Company 6 months 16.97c

No 80 40,000 lbs, blue buff green pink salmon and yellow No 48 cut 21x32 ms flat (Strength shall be not less than 65 points)

Dobler & Mudge 6 months 21.5c 1 year 21.5c
 The Whitaker Paper Company 6 months 16.97c

No 81 15,000 lbs, blue buff green pink salmon and yellow No 60 cut 21x32 ms (Without watermark Strength shall be not less than 80 points)

Dobler & Mudge 6 months 21.5c 1 year 21.5c
 The Whitaker Paper Company 6 months 16.97c

Ledger, White, Tub-Sized and Loft-Dried

No 82—60,000 lbs, No 24 cut 17x28 22x36 and 24x38 ms flat

Old Dominion Paper Company 6 months 18.5c
 R. L. Andrews Paper Company 6 months 17.74c
 Carow Manufacturing Company 6 months 21.7c
 The Whitaker Paper Company 6 months 16.97c

No 83—70,000 lbs, No 28 cut 17x28 21x32 23x36 and 24x38 ms flat

Old Dominion Paper Company 6 months 17.4c
 R. L. Andrews Paper Company 6 months 17.74c
 Carow Manufacturing Company 6 months 21.7c
 The Whitaker Paper Company 6 months 16.97c

No 84—60,000 lbs, No 32 cut 17x28 18x36 21x32 and 23x36 ms flat

Old Dominion Paper Company 6 months 17.4c
 R. L. Andrews Paper Company 6 months 17.74c
 Carow Manufacturing Company 6 months 21.7c
 The Whitaker Paper Company 6 months 16.97c

No 85—30,000 lbs, No 36 cut 17x28 20x28 and 24x38 ms flat

Old Dominion Paper Company 6 months 17.4c
 Carow Manufacturing Company 6 months 21.7c
 The Whitaker Paper Company 6 months 16.97c

No 86—25,000 lbs, No 40, cut 21x32 and 21x42 ms flat (Strength shall be not less than 88 points)

The Old Dominion Paper Company 6 months 18.489c
 Carow Manufacturing Company 6 months 21.7c
 The Whitaker Paper Company 6 months 16.97c

No 87—50,000 lbs, No 48 cut 20 1/2 x 24 1/2 21 x 32 1/2, and 22 1/2 x 31 1/2 ms flat (Strength shall be not less than 100 points)

Old Dominion Paper Company 6 months 38.45c
 Carow Manufacturing Company 6 months 32.7c
 The Whitaker Paper Company 6 months 21.82c

Heavy Ledger, White, Single-Ply, Tub-Sized and Loft-Dried

No 88 150,000 lbs Heavy Ledger White Single ply Tub-sized and Loft dried No 60 cut 20 1/2 x 30 1/2 and 21 x 32 ms flat

Old Dominion Paper Company 6 months 26.25c 1 year 26.3c
 R. L. Andrews Paper Company 6 months 26.1c 1 year 26.1c
 Carow Manufacturing Company 6 months 29.7c
 The Whitaker Paper Company 6 months 26.42c

White Tissue

No 89 1000 lbs 20x30 8 lbs flat min order 500 lbs

R. L. Andrews Paper Company 6 months 21.4c

Facing Stereo Tissue

No 90 600 lb 19x24 4 lb min order 300 lbs

R. L. Andrews Paper Company 6 months 21.8c 1 year 24.8c
 Dobler & Mudge 6 months 20.5c 1 year 20.5c
 Old Dominion Paper Company 6 months 27.0c 1 year 26.6c
 The Whitaker Paper Company 6 months 20.9c

Smooth Cover, Colored

No 91—150,000 lb dark blue light blue brown granite green pink red and yellow 20x26 80 cut 20x25 and 33x46 ms flat in wrapped bundles with projecting colored paper marker between reams

Knickerbocker White Co N. Y. 6 months 88.4c 1 year 88.4c
 Old Dominion Paper Company 6 months 10.54c
 R. L. Andrews Paper Company 6 months 8.43c
 The Whitaker Paper Company 6 months 8.5c

Rough Cover, Colored (Sample A)

No 92 15,000 lbs quaker drab robin's egg and terra cotta 20x25 48 flat in wrapped bundles with projecting colored paper marker between reams

Knickerbocker White Co N. Y. 6 months 88.4c 1 year 88.4c
 Old Dominion Paper Company 6 months 10.54c
 R. L. Andrews Paper Company 6 months 8.43c
 The Whitaker Paper Company 6 months 8.5c

Rough Cover, Colored (Sample B)

No 93 80,000 lbs dawn sea robin blue suede khaki and moss green 20x25 48 flat in wrapped bundles with projecting colored paper marker between reams

Knickerbocker White Co N. Y. 6 months 88.4c 1 year 88.4c
 Old Dominion Paper Company 6 months 10.54c
 R. L. Andrews Paper Company 6 months 8.43c
 The Whitaker Paper Company 6 months 8.5c

Coated Cover, Colored

No 94 75,000 lbs nadra tint light green and primrose 26 1/2 x 41 1/2 flat

Adelphi Paper Mill 6 months 11.4c

Cloth-Lined Cover

No 95 8000 sheet brown quaker drab russet and white 20x26 68 (a) cut 20x25 ms flat (b) cut 21x32 ms flat (c) cut 24x36 ms flat

Carow Manufacturing Company 6 months 7.7c
 Dobler & Mudge 6 months 7.7c
 Old Dominion Paper Company 6 months 10.5c
 R. L. Andrews Paper Company 6 months 11.4c
 The Whitaker Paper Company 6 months 11.4c

Kraft Wrapping

No 96 40,000 lbs 24x36 10 to 80 cut any size flat in wrapped bundle with projecting colored paper marker between reams

Morris O'Brien Company 6 months 7.4c
 Carow Manufacturing Company 6 months 7.48c
 Old Dominion Paper Company 6 months 7.99c
 The Whitaker Paper Company 6 months 7.11c

Wood Manila Wrapping

- No 97—120,000 lbs., 24x36—38 to 60, cut 21x32 and 25x38 flat, in wrapped bundles, with projecting colored-paper marker between reams

Samuel S. Alcorn, Philadelphia, 6 months 5 95c
 Maurice O'Meara, 1 year 5 74c
 Graham Paper Company, 6 months 5 77c on 60,000 pounds
 Old Dominion Paper Company, 6 months 5 789c, 1 year, 6 189c
 R. P. Andrews Paper Company, 6 months 5 74c
 Whiting Paterson Company, Inc., 6 months 5 75c, 1 year 5 75c

- No 98—700,000 lbs., 24x36—38 to 60, rolls, min width 6 ins, max width 48 ins

Samuel S. Alcorn 6 months 5 70c
 Maurice O'Meara, 1 year 5 74c
 Graham Paper Company 6 months 5 57c, on 350,000 pounds
 Old Dominion Paper Company 6 months 5 54c, 1 year, 5 549c
 R. P. Andrews Paper Company, 6 months 5 46c
 Whiting Paterson Company Inc. 6 months 5 25c 1 year, 5 25c

Sulphite Manila Wrapping

- No 99—40,000 lbs., 24x36—50 to 80, cut any size flat in wrapped bundles, with projecting colored paper marker between reams

Samuel S. Alcorn 6 months, 7 25c
 Maurice O'Meara, 1 year 6 24c
 Old Dominion Paper Company 6 months 8 49c
 R. P. Andrews Paper Company 6 months 7 67c 1 year, 7 67c

Rope Manila Wrapping

- No 100—10,000 lbs., 24x36—60, cut 24x38 27x38, and 40x42 ins flat, in wrapped bundles, with projecting colored-paper marker between reams

No bids

- No 101—15,000 lbs., 24x36 70 cut 24x38 ins flat, in wrapped bundles, with projecting colored paper marker between reams

No bids

- No 102—25,000 lbs., 24x36 80 cut 27x38 33x33, and 38x38 ins flat, in wrapped bundles, with projecting colored-paper marker between reams

The Whittaker Paper Company 6 months 11 43c

- No 103—50,000 lbs. 24x36 140 cut 24x38 ins flat, in wrapped bundles with projecting colored paper marker between reams

The Whittaker Paper Company 6 months 12 13c

- No 104—12,000 lbs., 24x36 70 rolls min width 6 ins, max width 36 ins

No bid

Oiled Manila Tympan

- No 105—15,000 lbs., 24x36 80, rolls, 19, 38 48, and 55 ins wide, max weight 150 lbs

No bid

Manila Board

- No 106—40,000 lbs., 22½x28½—75, rolls 21¼ ins wide

Samuel S. Alcorn 6 months 5 95c
 Maurice O'Meara Company 1 year 5 25c

Manila Cardboard

- No 107—20,000 lbs., 22½x28½—200, cut 17x28, 21x32 and 22½x28½ ins flat, in wrapped bundles, with projecting colored paper marker between each 100 sheets

Samuel S. Alcorn 6 months 6 25c

Sulphite Manila, High Finish

- No 108—200,000 lbs. 24x36—133, cut any size flat, in wrapped bundles, with projecting colored-paper marker between reams

Samuel S. Alcorn 6 months 6 70c
 Maurice O'Meara, 1 year 6 95c
 Old Dominion Paper Company 6 months 8 89c
 R. P. Andrews Paper Company 6 months 7 67c, 1 year, 7 67c

- No 109—80,000 lbs., 24x36—80, rolls, 18 ins wide

Samuel S. Alcorn 6 months 7 0c
 Maurice O'Meara 1 year 6 95c
 Old Dominion Paper Company, 6 months, 8 84c
 R. P. Andrews Paper Company, 6 months, 7 54c, 1 year 7 54c.

Manila Tag Board, Calendered

- No 110—80,000 lbs., 22½x28½—75, rolls, 24 and 26¼ ins wide.

Maurice O'Meara Company, 1 year, 6 24c
 Old Dominion Paper Company 6 months, 8 89c
 R. P. Andrews Paper Company, 6 months, 7 74c, 1 year, 7 74c

Colored Cardboard

- No 111 10,000 lbs. ash gray, blue, buff, green, lemon, and orange, 22x28—196 flat in wrapped bundles, with projecting colored paper marker between each 100 sheets, min. order 2,000 lbs

Old Dominion Paper Company 6 months 10 99c

White China Board

- No 112—20,000 lbs., 22x28—196 flat, in wrapped bundles, with projecting colored paper marker between each 100 sheets, min order 4,000 lbs

Old Dominion Paper Company 6 months, 9 99c

Colored Bristol Board

- No 113 220,000 lbs., buff blue, gray green, melon, pink, quaker drab and yellow 21x31—102 flat, in wrapped bundles with projecting colored-paper marker between each 100 sheets

Old Dominion Paper Company 6 months 7 99c

- No 114—300,000 lbs., blue, brown, gray, green, melon, pink, and yellow, 22½x28½—100, rolls, 20 ins wide

Old Dominion Paper Company 6 months 7 99c

- No 115 300,000 lbs. blue brown, gray green, melon, pink, and yellow 22½x28½—100, rolls, 20 ins wide

Old Dominion Paper Company 6 months 7 99c

White and Colored Bristol Board, No 1

- No 116 50,000 lbs. 22½x28½—120, cut 21x32 and 22½x28½ ins flat, in wrapped bundles, with projecting colored-paper marker between each 100 sheets

Dobler & Mudge 6 months 13 5c 1 year, 13 5c
 Old Dominion Paper Company 6 months 13 99c 1 year, 13 99c
 R. P. Andrews Paper Company, 6 months 12c, 1 year, 12c
 The Whittaker Paper Company 6 months 12 18c

- No 117 5,000 lbs. blue brown gray green, melon, pink, and yellow, 22½x28½—100 flat, in wrapped bundles, with projecting colored paper marker between each 100 sheets

No bids

U S Postal Card Cream Bristol

- No 118—700,000 lbs., 22½x28½—104 rolls, 44½ ins wide

The Champion Fiber Company 6 months 8 25c 1 year 8 25c
 Old Dominion Paper Company 6 months 8 649c 1 year, 8 649c
 American Writing Paper Company, Holyoke, Mass 6 months, 8 25c 1 year 8 25c
 The Whittaker Paper Company 6 months, 8 35c

White and Colored Index Bristol Board

- No 119 2,000 lbs., 22½x28½—181 flat

Old Dominion Paper Company 6 months 27 89c

- No 120—10,000 lbs., blue, buff, fawn, green, pink, salmon, and yellow, 22½x28½—181 flat

Old Dominion Paper Company 6 months, 29 99c

White Paraffin

- No 121—15,000 lbs., 24x38—16 flat, min order, 500 lbs

No bids

White and Colored Noncurling Gummed

- No 122—4,000 lbs., White, 17x22—23, and 20x24—30 flat, min order, 1,000 lbs

Dennison Manufacturing Company Framingham, Mass., 6 months, 174 reams 17x22 23 pounds, \$4 87 per ream, ret, 129 reams 20x25 37 pounds \$6 04 per ream, 167 reams 17x22, 24 pounds, \$3 97 per ream, net, 121 reams 20x25, 33 pounds, \$5 01 per ream, net, on 6 months

Dobler & Mudge 6 months, 17c
 Old Dominion Paper Company, 6 months 17 49c
 R. P. Andrews Paper Company, 6 months, 15 3c, 1 year, 15 3c.

- No 123—250 lbs., blue and pink, 17x22—23, and 20x24 ins 30 flat, min order, 250 lbs

Dennison Manufacturing Company, 6 months, \$9 10 on sample.
 Old Dominion Paper Company, 6 months, 20 49c.

Blotting

No 124—3,000 lbs, white, blue, and pmk, 19x24—80 flat, in wrapped bundles, with projecting colored-paper marker between reams, min order, 500 lbs

Dobler & Mudge, 6 months, 9 5c., 1 year, 9 5c.
Old Dominion Paper Company, 6 months, 8 89c., 1 year, 8 89c.
R. P. Andrews Paper Company, 6 months, 8 86c.; 1 year, 8 86c.
The Whitaker Paper Company, 6 months, 9 21c

Stereotype Molding, White

No. 125—3,000 lbs, White Stereotype Molding Paper for paper process, 19x24—50 lbs flat, in wrapped bundles, with projecting colored-paper marker between reams, min order 1,000 lbs

Dobler & Mudge, 6 months and 1 year, 11c
Old Dominion Paper Company, 6 months 10 49c., 1 year 10 49c
R. P. Andrews Paper Company, 6 months 10 4c 1 year, 10 4c
The Whitaker Paper Company, 6 months 12c

Stereotype Molding, Red

No 126—2,500 lbs 19x24—20 flat, in wrapped bundles, with projecting colored paper marker between reams, min order 1,000 lbs

The Whitaker Paper Company, 6 months 14 60c

Offset, for Web Presses

No 127—15,000 lbs 24x36—30, rolls, 39 ins wide, min order, 2,000 lbs

Old Dominion Paper Company, 6 months 9 74c
R. P. Andrews Paper Company, 6 months 8 14c 1 year 8 14c

Plate Wiping, for Embossing Presses

No 128—2,500 lbs 24x36—60, rolls without breaks or scraps, wound solid at in even tension 4 5, 6 7 and 8 ins wide, max diameter 12 ins with 1 3/4 inch hole in the center

R. P. Andrews Paper Company, 6 months 8 9c

Back Lining, for Case-Making Machine

No 129—3,000 lbs 24x36—90 rolls 24 ins wide, min order 1,000 lbs

No bids

Lining, for Headband, Lining, and Crashing Machine

No 130—2,000 lbs 24x36—80 rolls 24 ins wide min order 2,000 lbs

The Whitaker Paper Company, 6 months 7 11c

Tablet Stripping

No 131—1,000 lbs 24x36—40, rolls 24 ins wide, min order, 500 lbs

The Whitaker Paper Company, 6 months 7 11c

Pressboard

No 132—1,000 lbs, 24x32 ins, weight 80 lbs to 144 sheets flat, min order 1,000 lbs

Dobler & Mudge, 6 months 18 5c
R. P. Andrews Paper Company, 6 months 11 34c

Binder's Boards

No 133—500 lbs, News Board, 26x38—Nos 100 and 120 (To be trimmed square on four sides) Min order, 500 lbs

No bids

No 134—500,000 lbs, Chip Board, 26x38—No 50

R. P. Andrews Paper Company, 6 months, 3 57c., 1 year, 3 57c., c 1
R. P. Andrews Paper Company, 6 months, 3 67c 1 year, 3 67c., l c 1

No 135—40,000 lbs, Strawboard, 26x38—No 50

R. P. Andrews Paper Company, 6 months, 2 625c., 1 year, 2 625c

No 136—10,000 lbs, Strawboard, lined, 26x38—No 50

No bids

No 137—40,000 lbs, Box Board, lined one side, rolled, flat, nonwarping, of even thickness, approximately, .06 inch, and free from lumps, irregularities, and defects, size, 24 1/2 x 34—35 sheets to the bundle of 50 lbs

R. P. Andrews Paper Company, 6 months, 4 068c; 1 year, 4 068c

No 138—600,000 lbs, Binder's Board, No 2 quality, rolled, flat, nonwarping, of even thickness, and free from lumps, irregularities, and defects. Boards must be springy and corners should not break readily when bent sharply Nos 16 to 40, 25x30 ins

R. P. Andrews Paper Company, 6 months, 4 812c, c 1, 6 months 5 112c l c 1

No 139—40,000 lbs, Binder's Board, No 1 quality, medium hard-rolled, flat, nonwarping of even thickness and free from lumps, irregularities, and defects. Boards must be decidedly springy and corners should not break readily when bent sharply Nos 12 to 30, 25x30 ins

R. P. Andrews Paper Company, 6 months 5 637c l c 1

No 140—120,000 lbs, Binder's Board, best quality, hard-rolled, flat, nonwarping, of even thickness and free from lumps, irregularities, and defects. Boards must be decidedly springy and corners should not break readily when bent sharply Nos 18 to 45, 19x30 ins, Nos 16 to 90, 22x26 ins

R. P. Andrews Paper Company, 6 months 5 6c, c 1 6 months, 5 9c l c 1

No 141—20,000 lbs, Trunk Board, medium hard-rolled, flat, nonwarping, of even thickness and free from lumps, irregularities, and defects. Boards must be decidedly springy and corners should not break readily when bent sharply Size 34x44 ins Nos 6 to 10

R. P. Andrews Paper Company, 6 months 5 375c

Bids and Awards for Government Paper

WASHINGTON, D. C., January 31, 1923. The Government Printing Office will open bids on February 7 for 14,400 pounds (400 reams) of 21 x 32—36 No 20 high m f yellow writing paper

The purchasing officer of the Government Printing Office will open bids on February 5 for 19,500 pounds (300 reams) 32 x 48—65 and 26,500 pounds (500 reams) 29 x 43—53 white rag machine finish printing paper

The purchasing officer of the Government Printing Office has received the following paper bids

1,000 sheets Executive Cover Paper, 22 1/2 x 28 1/2, ripple finish R. P. Andrews Paper Company, \$7.25 per hundred sheets D. L. Ward Company, \$7.40

10,000 pounds 25 x 38—50 White Antique Printing Paper Bryant Paper Company, \$0.775 R. P. Andrews Paper Company, \$0.709, Dobler & Mudge, \$0.75 Old Dominion Paper Company, \$0.7568, Garrett Buchanan Company, \$0.8, International Paper Company, \$0.745 The Broderick Paper Company, \$0.75

5,000 9 x 14 1/4 Manila Filing Jackets R. P. Andrews Paper Company, \$24.90 per M U. S. Envelope Company, \$33.60, Keystone Envelope Company, at \$47.00

The purchasing officer of the Government Printing Office has received the following paper bids

50,000 pounds 28 x 38 No 50 Chip Board The C. L. La Bonte Company, at \$62.00 per ton, Mathers-Lamm Paper Company, \$59.90, R. P. Andrews Paper Company, \$78.40 The Whitaker Paper Co., \$67.50, Dobler & Mudge, \$68.75, Demson-Pratt Paper Company, \$71.15 The Ohio Boxboard Company, \$60.00, Philip Rudolph & Son, Inc., \$70.00

1,000 White Cardboard Shipping Tags, 2 3/8 x 4 7/8—Denney Tag Company, Inc., at \$1.78 per M The Whitaker Paper Company, \$1.43 Old Dominion Paper Company, \$2.49, International Tag Company, \$2.76 Gimbel Brothers, \$1.60

Bids will be opened at the Government Printing Office on February 5 for 39,050 pounds (400 reams) of various sizes Sulphite Manila Paper

The P. H. Glatfelter Company has been awarded the contract for furnishing the Government Printing Office with 38,000 pounds (500 reams) of No 1 38 x 48—76 white m f printing paper at \$0.675, bids for which were opened on January 17

H. F. E. KENT HEADS CANADIAN PULP & PAPER ASSOCIATION

Annual Meeting at Montreal Last Week Is Most Successful in Point of Attendance and General Interest Held in the Ten Years of the Organization's Existence—Proposal For Establishment of Plant For Scientific and Industrial Research Is Postponed for Year—Secretary Edward Beck Presents Interesting Survey of Conditions in the Pulp and Paper Industry

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL QUE. January 26, 1923.—The annual meeting of the Canadian Pulp and Paper Association held here today was in point of attendance and general outlook the most successful which has been held in the ten years of the organization's existence. The



H. F. E. KENT

delegates present included representatives from practically every pulp and paper concern in Canada and the utmost optimism was shown as to the future of the industry in this country.

Research Bureau Delayed a Year

One of the most important proposals which came before the meeting was the report of the Committee on Industrial Research, on the proposal to establish a plant for scientific and industrial research in connection with the industry. The committee reported favorably on the project and recommended the appropriation of the sum of \$30,000 for the installation of the necessary plant at Montreal to carry on the work. A long discussion took place on the proposal a number of the members stating that they had not received sufficient information to warrant them in voting so large a sum of money for the association to embark on so ambitious and far-reaching a project. Other members enthusiastically endorsed the proposal. Ultimately it was evident that those who refused to commit themselves at present were in the minority, and as it was considered that there should be unanimous endorsement of the project it was decided to postpone consideration of the proposal for another year. The committee was continued under the chairmanship of Col. C. D. I. Jones of Sault Ste. Marie and it was asked meantime to collect and disseminate all possible information, so as to bring the matter to a final decision at next year's meeting.

Great Progress of the Industry

The members were much interested in a review of the progress of the industry in Canada during the ten years of the association's existence. This review was presented by Edward Beck, the secretary, in the absence of George McKee, who retired from the presidency recently on leaving the Donnanona Paper Company to take up a position in the United States. Mr. Beck showed that during the ten years the production of paper in Canada had increased from 350,000 tons per annum to 1,090,000 tons, about 60 per cent of which was produced in Quebec Province. The total production, he said, now comprised 15 per cent of all Canada's exports and 25 per cent of her exports of manufactured goods. While the immediate outlook favored optimism, there was danger, particularly in the output of news print, of overrunning the permanent demand of the market. To prevent this he recommended that efforts be made to explore the markets of the world, so as to open up new fields for the Canadian product.

Hostility in Australia

In a discussion on the report some members complained that Canadian news print was being discriminated against in Australia in favor of the British product. In regard to this Mr. Beck mentioned that the Hon. James Robb Minister of Trade and Commerce for Canada, had this week returned from Australia, and although owing, possibly to the general elections there, he had not been able to negotiate a trade agreement, no one yet knew just what assurances he had brought back or what might develop from his visit. But it was evident that a propaganda hostile to Canadian news print had been carried on with the result of present discrimination against Canada in favor of British news print. This was either through a misunderstanding of Canadian conditions or through deliberate intent. It was decided to approach the Government asking it not to relax its efforts to get Canadian products admitted on as favorable terms as the British product.

The New President

The election of officers resulted in two Toronto men being chosen for office, H. F. E. Kent of the Kinloch Paper Mills as president and George Carruthers as first vice president.

Speeches at Luncheon

At the annual luncheon of the association held at the Ritz Carlton Hotel the principal speaker was Sir Edmund Walker of Toronto, president of the Canadian Bank of Commerce. He pointed out that the pulp and paper industry in Canada had made a more rapid recovery than any other business, and its importance to the country was manifest to all. He spoke of the need of economy, saying that never had so much money been spent on expensive amusement as now. As an instance of economy he mentioned that the Canadian Bank of Commerce saved and sold all its waste paper to be re-manufactured to the extent of \$7,000 a year. It might seem petty for a bank manager to consider such a thing but it was true economy. While the pulp and paper men were deeply interested in forest conservation and scientific research little interest had been shown in this saving of material such as had been practised by Japan and Italy which produced splendid and artistic paper from rubbish. This was real conservation as much so as in the chemical and engineering problems of the industry. He regretted that the Dominion Government had not yet done anything towards the establishment of a Bureau of National Research which was tremendously needed in Canada but he hoped that it would do something along that line before very long. Referring to the need of lower costs and lower freight charges in Canada he said "We cannot get these without lower prices for labor but the labor union's object to an immigration which will ease the labor situation. No one likes to talk lower wages but high wages are the insuperable barrier to the recovery of things here and someone should have the courage to say it. And I would say the same thing to the labor

(Continued on page 24)

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CANADIAN PULP & PAPER ASSOCIATION MEETS

(Continued from page 22)

unions in meeting, because we can only get steady employment and cheaper costs by reducing labor costs. That would cheapen everything, and while improving business, would give workmen more comfort in return for their work at less money, and the comfort they get from their work is the true criterion. Our salvation depends on a free supply of unskilled labor, and we must get it."

S. L. Thompson, vice president of the American Newspaper Publishers' Association and general manager of the *Chicago Tribune*, followed with an analysis of the relations between the pulp and paper men, as the producers, and the newspaper publishers as the consumers. He argued that instead of trying to make cut-throat profits out of each other, as the market went up or down they should come together for mutual understanding ~~souas~~ to stabilize the market, get a steadier and better supply of news print, and so enable the publishers to get better and in the end cheaper paper, to the good of the industry as a whole.

The Annual Banquet

The annual banquet held the same evening was so largely attended that the ball room of the Ritz-Carlton Hotel proved inadequate to accommodate all the guests. The new president H. F. E. Kent took the chair, and the guests at the head table included Sir Edmund Walker, Prof. Stephen Leacock, Albert Hultstad (Consul General for the United States), M. Carlholm (Consul General for Sweden), S. Steckmest (Vice Consul for Norway), A. F. Clark (president of the Canadian Lumber Association), Fred J. Campbell, Murray Williams, James Bothwell, Charles A. Gordon, S. L. Thomson (Chicago), P. D. Wilson and others. There was no formal program of speeches, and after the toast of The King had been honored, the program was given up to a vaudeville entertainment admirably carried out under the direction of Professor Leacock.

Reports Presented at Annual Meeting

In addition to the matters mentioned above many subjects of interest and importance were brought before the members at the business meeting in the form of the annual reports from the chairmen of the different sections of the association.

Survey of Conditions In the Industry

Edward Beck, secretary of the association, in the absence of the retiring president gave an interesting survey of conditions in the pulp and paper industry. He said:

At the opening of the tenth annual meeting of our association a brief retrospective survey may perhaps be in order. The decade of which this meeting marks the termination has witnessed the evolution of our industry from a position of minor importance to one of the first magnitude; it indeed it cannot now be said to dominate in most respects Canada's manufacturing industries. Its growth has been at once so extensive and so rapid that only when we stand aside, as on occasions such as this, and give consideration to its progress, can we begin to appreciate it in its fullest extent.

More figures are at best uninspiring but it is worthy of note that ten years ago the paper industry was so little regarded by the Dominion Bureau of Statistics that no records were made of its activities. Attempts were made by another government department to compile annual returns showing the amount of pulpwood consumed in Canada but little adequate official information as to the industry as a whole is available for any year prior to 1917 when the present system of compiling an annual census was inaugurated.

Some Interesting Comparisons

The lack of official records for the year 1913 makes it difficult to draw comparisons between that year and those given in the census of 1921 the latest available. However there are some fig-

ures which can be used. For instance, in 1913 there were 64 mills in operation, while the 1921 figures show 100 mills operating, an increase of 56 per cent. In 1913 the consumption of pulpwood by Canadian mills was 1,109,034 cords compared with 2,180,578 cords in 1921, an increase in 1921 of nearly 100 per cent. Our production of news print in 1913 amounted to 350,000 tons, in 1921 the production was 805,114 tons or 130 per cent greater, while in 1922 it exceeded 1,000,000, or an increase of 300 per cent in the ten-year period. Total wood pulp of all kinds produced in 1913 amounted to 854,624 tons, in 1921 it amounted to 1,544,027 tons, an increase of 80 per cent.

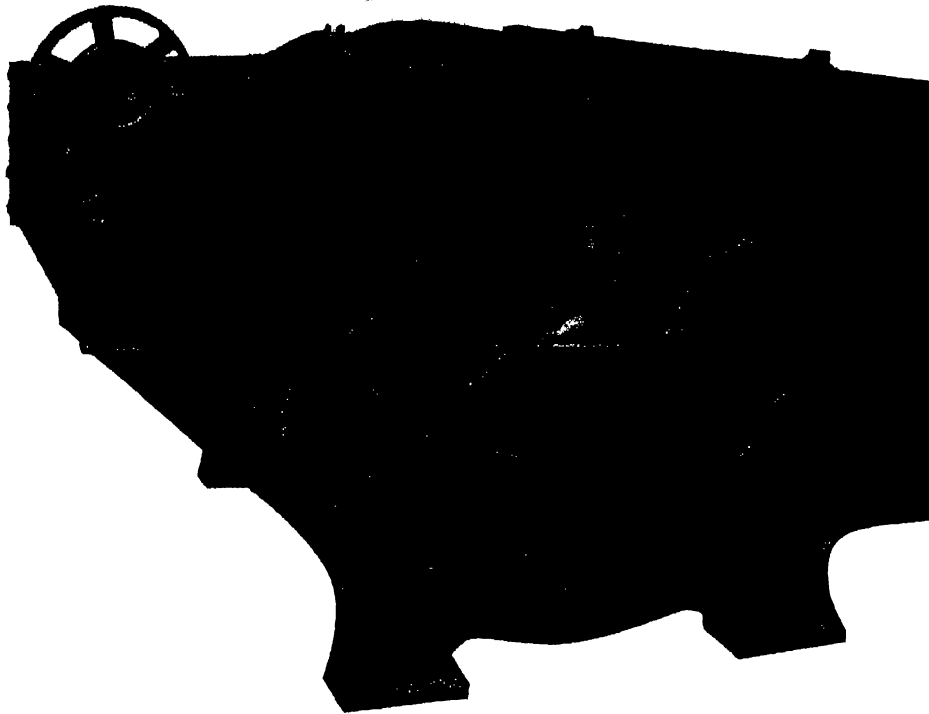
The government records start with the year 1917 and the latest compiled are those covering 1921. Taking these two records for comparison covering a period merely four out of the ten years, it is shown that the total number of establishments increased from 83 to 100 or 20 per cent, the invested capital from \$186,787,405 to \$379,812,751 or 117 per cent, the amount paid in wages and salaries from \$20,458,019 to \$34,199,090, or 68 per cent, and the total value of the output from \$96,340,327 to \$151,603,165, or 56 per cent, the total paper tonnage from 853,689 to 1,021,941 or 20 per cent, and the total pulp tonnage from 1,464,154 to 1,544,027 or 5 per cent. In considering these figures it must taken into account that 1921 was not a normal year for the industry. When the figures for 1922 are available the contrast will be found to be much more pronounced.

Our pulp and paper exports, which offer a better criterion for judging the growth of the industry during the ten year period rose in value from a total of \$11,850,632 in the fiscal year ending March 31, 1913 to \$163,655,344 for the year ending March 31, 1921, an increase of 28 per cent.

Part the Association Has Played

What has been the history of the association during this period of extraordinary expansion and what part has it played in helping to bring about this great development? The association as many of the members can recall had its inception in the desire of a number of progressive leaders in the industry for some organized cooperative effort to further its interests. The first and preliminary meeting was held in Toronto on March 8, 1913. It was attended by the representatives of some twelve different concerns. This meeting adopted a resolution setting forth that "in the opinion of those present it is advisable and highly desirable that we should form a Canadian Pulp and Paper Association." A committee on organization was appointed. The committee reported at a subsequent meeting held in Montreal on March 18 of the same year and on the following day the association was formally launched at a luncheon held at the Windsor Hotel. The guest of honor was Arthur C. Hastings, the then president of the American Paper and Pulp Association, who brought to the occasion the blessing and good wishes of our United States prototype. It is pleasing here to note that the friendly relations then inaugurated between the two corresponding bodies have since been maintained and intensified. Carl Riordon was the first president and to his enthusiasm and activity the association owes a great deal of its initial success. The first Executive Council was composed of Carl Riordon, T. J. Stevenson, A. F. Crawford, I. H. Weldon, D. Robertson and C. Howard Smith, all of whom, with one exception are still actively interested in the association's affairs. Some of the activities which engaged the early days and which still enlist our interest had to do with the gathering and dissemination of trade statistics, the establishment of trade customs, the encouragement of the consumption of home products as opposed to unnecessary importations, the tariff, trans-

(Continued on page 26)



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BIRD SAVE-ALL

CANADIAN PULP & PAPER ASSOCIATION MEETS

(Continued from page 24)

portation, the betterment of labor conditions, the regulation of credit, technical research and industrial efficiency and similar matters.

For a time the organization met with hard skidding. The value and usefulness of a trade association was not so generally appreciated in the early days as they are today. The first year closed with a financial deficit but the succeeding year brought about a reorganization on a more substantial basis and from that time the course has been upwards.

Technical Section Taken in in 1915

In 1915 the Technical Section was accorded recognition and taken into the association as an associate body. Two years later the Woodlands Section was organized and accorded a similar status. Both of these auxiliary associations are, as is shown by their reports submitted at today's meeting, fully alive and engaged in work of great benefit to the industry.

It was in 1917 also, during the administration of C. Howard Smith as chief executive that A. I. Dawe was engaged as the association's permanent secretary from which time the growth and progress of the organization has been both rapid and healthful. For Mr. Dawe's energy and enterprise it owes not a little of its present gratifying standing. It is no idle boast to say that the association today enjoys a reputation second to none among the trade organizations of the Dominion while it is also not infrequently cited by authorities in other countries as an example of what an active and helpful trade organization ought to be.

So much for past history. What about the year 1922 just closed? In considering the immediate condition of the industry we must remember that the year 1921 was one of depression and difficulty, it was also a year of reorganization and reconstruction. Towards the end of that year, however, the situation began to look a little clearer and we entered upon 1922 with a more optimistic outlook, prepared for twelve months of steady if slow progress. The year which has just closed fulfilled our expectations and although we had no sudden return to peak prosperity we have experienced a steady growth and development and we feel confident that our industry is now on a solid and sound basis so that we can look forward with cheerful optimism.

Large Increase in Production

During the past year there has been a large increase in the production of practically all grades of pulp and paper over the previous year. Our production of news print was well over one million tons compared with 812,000 tons in 1921. Production of wrapping paper, book and writings have also increased considerably and the production of the various grades of pulp showed increases ranging from 35 to 100 per cent.

This increased activity has naturally been reflected in our export figures which show a great advance over the figures for 1921 and in some cases over those for 1920 which was the previous record year.

Exports of mechanical pulp increased from 185,954 tons in 1921 to 280,266 tons in 1922, bleached sulphite from 61,420 tons to 138,446 tons, unbleached sulphite from 107,738 tons to 192,344 tons and sulphite from 87,498 tons to 137,187 tons.

Exports of news print amounted to 874,008 tons compared with 536,487 tons in 1921, kraft wrapping 17,061 tons compared with 5,940 tons and while the fine papers did not show increases there was a steady growth in the second half of the year which augurs well for the coming year.

In spite of the decline in prices which has taken place the total value of the exports of pulp and paper in 1922 amounted to \$105,424,324 compared with a total of \$98,319,087 in 1921.

During the year there have been extensive additions to existing plants and several new mills have been brought into operation. The news print capacity in 1922 was 3,825 tons per day and additions in the near future will raise this figure to about 4,200 tons daily. There have also been additions to the production of our pulp and fine paper mills and further additions are planned during the coming year. All of which indicates confidence in the situation and gives ground for the expectation that the year 1923 will be a record year in the history of the industry.

Insofar as the affairs of the association are concerned, the past year has been marked by no especially outstanding event. The several sections have functioned as usual. Their individual records will be found in their annual reports submitted at this meeting.

Statistical Department

Early in the year the Executive Council made provision for increasing the usefulness of the Statistical Department by the addition of an expert statistician to the staff. Experience has taught the value of authentic and reasonable reports as to the extent of the output of the various branches of the industry and other information from both at home and abroad. The usual weekly and monthly reports on production, shipments, etc., have been issued at regular intervals during the year and together with the charts sent out each month have served to keep the members informed on the general situation. The interchange of information with the Scandinavian Cellulose Association has also been maintained and has proven of value to the members of the Chemical Pulp Section. Efforts are under way by which it is hoped to initiate a similar exchange of information covering mechanical pulp. An exchange of information covering news print production has been carried on with the Scandinavian countries, Finland and Germany and regular reports have been sent to the members interested. A considerable number of new reports have been issued since the spring, some at regular intervals, others, on special occasions have directed. Assurances have been received that these reports have proved of interest and value to the members. As the value of trade statistics depends largely upon their timeliness, the co-operation of the members is essential to the usefulness of this service, a fact which the members should all bear in mind.

Transportation Department

The Transportation Department has continued to operate in connection with the Montreal headquarters of the Canadian Manufacturers' Association and has rendered useful service. In several instances adjustments of freight charges have been obtained from the railways to the advantage of our members.

Notable advancement has been made in connection with the spread of technical education. A correspondence course in papermaking, based upon the series of textbooks published by the Joint Educational Committee, has been established with the sanction of the council. It promises to perform a very useful service. A committee composed of F. J. Campbell, George Carruthers and O. F. Bryant represents the association in the carrying on of this work.

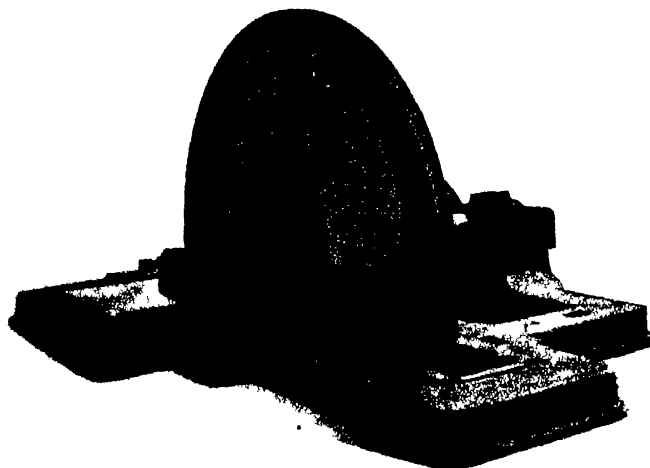
Summer employment in the mills was found for some 33 college undergraduates through the agency of the association's headquarters. This is not so many as in former years, trade conditions in the early part of the year militating against this activity.

Tariff Matters

Tariff matters have, as usual, engaged the attention of the executive from time to time, necessitating the employment of legal counsel as well as the appearance of our representatives before the various authorities.

The membership stands numerically unchanged although four

(Continued on page 28)



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Cords per hour	14 37
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B D wt of sawdust	2,000
Lbs sawdust cord B D	16 9
Per cent Sawdust	0 68

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CANADIAN PULP & PAPER ASSOCIATION MEETS

(Continued from page 26)

concerns have withdrawn during the year. These withdrawals were due to changes in ownership to financial considerations or other valid causes. Four new members were admitted and a Waxed Paper Section was added to the list of sections.

The Quebec and Ontario committee appointed at the last annual meeting to confer and advise with their respective provincial governments have carried out the instructions accompanying their appointment with more or less satisfactory results.

An important conference between the Joint Committee on Technical Research and Sir Arthur Currie, the principal of McGill University and members of his faculty was held in November at which the future of the Paper Division of the Forest Products Laboratories and the proposed establishment of a chair of Chemistry in the university were discussed. The way was paved, it is believed for important developments in the near future.

The Text Book Committee has made progress during the year and will give an account of their stewardship at this meeting.

Loses Active Service of Mr. McKee

The association had the misfortune towards the close of the year, to lose the active services of George M. McKee, who was elected president at last year's annual meeting. Mr. McKee having transferred his business interests across the border into the United States. Despite the unanimously expressed desire of the members of the Executive Council that Mr. McKee continue in office to the end of his term, he felt it incumbent upon him not to do so. During the eleven months he held office Mr. McKee was zealously active in promoting the welfare of the association and earned the gratitude and goodwill of his associates in office as well as the love of the membership at large. The regret universally entertained over his departure from our immediate midst is mitigated to some extent by the knowledge that he has merely stepped across the imaginary boundary line that divide the two countries and that since he continues his association with the industry we may still regard him as one of us in everything that pertains to mutual interest, friendship and goodwill.

It is gratifying and reliable to report that the finances of the association are in a sound condition, as may be seen from an examination of the financial statement. The balance to the credit of the funds is the largest in the association's history.

Possibilities of the Future

Satisfaction of a past achievement should not lead us to under-rate the possibilities of the future. There is no reason why our industry should not continue to expand and to keep pace with the growth of the country and with the natural increase in the universal demand for its product. Possibly however we may be going ahead a little too rapidly. Overconfidence as to an unbroken continuance of the present demand for our products may lead us into undue or too rapid development. There are already danger signs in one or two directions that the saturation point is in sight. We should guard against unnecessary and excessive production, which is apt to prove as unprofitable and undesirable for the consumer as it is for the producer.

When it is considered that the news print mills of Canada, now in operation or under construction, or for whose construction provisions have been made are committed to a program which will give them a combined output capacity of 4,315 tons a day or practically 1,300,000 tons a year by the end of next year, that production in the United States is also due for an increase, attributable to new machines now in process of installation, that the total demand for this class of paper on this continent, practically our only assured market at its maximum had never exceeded 2,500,000 tons a year, that United States production has never failed to equal at least 58 per cent of this demand and that the tonnage due from

Canada by the end of 1924 will equal 57 per cent of the greatest volume of consumption in any one year, the figures may naturally invite a question as to whether expansion has not reached or is it approaching the danger line?

Similar conditions may be said to apply in lesser degree to the production of groundwood, sulphite and the finer grades of paper. If expansion is to go on at its present rate it is inevitable that new markets must be explored. Where are they to be found? How can we best meet the competition that we shall be faced with when we find them?

The problems and others the members will find are intelligently dealt with by the chairmen of the several sections in their annual reports submitted to this meeting, reports which this year are of more than ordinary interest and will well repay the study of the members. Upon their resolution depends in a large measure the future of our industry and incidentally the welfare of this association.

The association exists for the purpose of helping the industry to solve its problems such as these and the measure of its success in so doing will be the measure of its usefulness to the members. But the association cannot function as it should unless it has the united and loyal support of its entire membership. The year now opening may prove a critical one for the organization—one to test the ability and integrity of the incoming executive as well as the effectiveness of the members. Proposals are to be brought before the meeting making out in entirely new and broad line of departure from past policies. They should be considered on their merits and dealt with as may best accord with the interests of all the members.

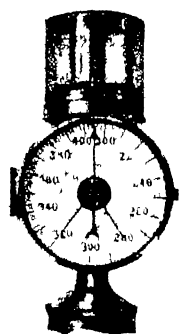
Larger Membership

One of the activities that should be enquired upon the incoming section is that of adding to the membership so that it may be said to represent as nearly as may be 100 per cent of the industry. Special efforts should be made to enlist the new concerns which have recently come into being. Some field work is essential. The newly elected chairmen of the sections should be requested to assist in this effort. The association is not a closed corporation. Its work is directed towards the general good of the industry and for that reason it is entitled to and should be accorded the united support of all. What has been said of trade associations in general applies particularly to our own organization. It is built upon a fundamental principle and is the result of economic evolution. It comprises a partnership in all legitimate and lawful undertakings—a partnership which embodies the democratic doctrine of the greatest good to the greatest number. It provides a means for applying the democratic idea in business that can be found nowhere else in any other way. With a continuance of the support given to it in the past it must and will go on to greater things and enlarged usefulness in the future and during the ensuing ten years discount the achievements of the past however noteworthy and substantial the company now appear to us to have been.

\$651,500 for Chicoutimi Pulp Fire

MONTREAL Que., January 30, 1923—The Board of Arbitrators named to determine the value of 28,130 tons of pulp belonging to Chicoutimi Pulp Company destroyed by fire at Port Alfred on July 8, made their award Saturday.

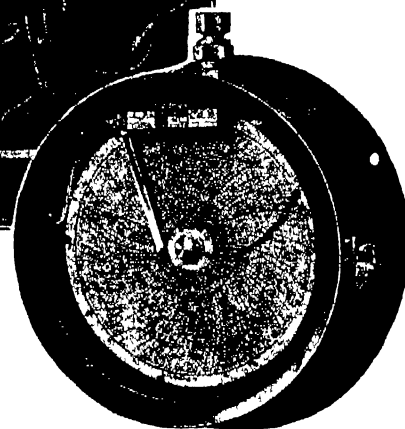
The Chicoutimi Pulp Company filed a claim against thirty-one insurance companies for \$1,029,800 basing the value of the destroyed pulp at \$37.00 a ton, but the Board of Arbitrators found that there was 27,227 tons of pulp destroyed and that it had an average value of \$23.93 per ton and awarded the insured \$651,500 in full of its claim.



Foxboro Tachograph
for recording speed of
the grinder



Foxboro Pressure Recorder
for recording pressure of
the wood against the
grinding stones



For Pulp of Uniform Quality Use Foxboro Recorders in the Grinding Room

We make Indicating and Recording Liquid Level Gauges, Thermometers, Pressure Gauges, Tachometers, Psychrometers, CO Recorders, etc., for use on

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White Water Tanks
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Drying Lofts
Size Tanks
Boiling Kettles
Acid Recovery Still
Incinerators;
and for the
Power Plant

Pulp of uniform quality requires close control of grinding speed and pressure. For close control of grinding speed, connect a Foxboro Tachograph to the grinder shaft. This instrument furnishes a permanent and continuous record of grinder speeds.

For close control of pressure, the Foxboro Recording Gauge provides an accurate record of the pressure of the wood against the grinding stones.

Operating standards can be developed and maintained with the aid of these dependable instruments which will result in the improvement of your ground wood and in a reduction in your cost of operation.

Every Foxboro instrument is designed, built and tested in a way that makes certain it is worthy of its reputation as "The Compass of Industry."

We shall be glad to furnish you complete information on either the application or the instruments described above. Write to Dept. B H.

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4830

GEORGE M. McKEE NEW HEAD OF NEWS PRINT SERVICE BUREAU

Elected President at Annual Meeting Held Last Week in Montreal—Other Bureau Officers Remain Unchanged—R. S. Kellogg Lauds Financial Conditions of Organization and Presents Charts Showing Relative Production of News Print in Canada and the U. S.—Mr. Kellogg Reads Interesting Paper on 'News Print Production in 1922'—2,600,000 Tons Is Total

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 26, 1923. At the annual meeting of the News Print Service Bureau held here today, George M. McKee, of the Algonquin Paper Corporation, Ogdensburg, N. Y., was elected president. The other officers of the Bureau remain as follows: Vice president, Louis Bloch, of the Crown-Willamette Paper Company, San Francisco, Cal.; secretary-treasurer, R. S. Kellogg, New York; executive committee, P. B. Wilson, of the Spanish River Pulp and Paper Mills, Saint Ste. Marie, Ontario, Canada; W. T. Haskell, of the International Paper Company, 30 Broad street, New York; and F. T. Apodale, of Price Prothers & Co., Quebec, P. Q., Canada.

"The Bureau is in the best financial shape it has ever been," said R. S. Kellogg, secretary-treasurer, in addressing the meeting. Members' dues were lowered to four cents per ton of paper manufactured. In 1921 dues were as high as 5½ cents per ton, being subsequently reduced to 5 cents in January, 1922, and 4½ cents last July. They have never been below the present rate of four cents.

In the course of the brief business meeting, lasting but an hour, Mr. Kellogg presented two charts showing both total and comparative production of news print in the United States and Canada from 1904 to 1922 and from 1913 to 1922 respectively. An abstract of his report to Bureau members follows:

"The production of news print paper in North America hung up a new record in 1922, the total for the United States and Canada surpassing by some 140,000 tons the previous high mark of nearly 2,400,000 tons in 1920.

"Of this total the United States produced 1,448,000 tons or 223,000 tons more than in 1921 when the output was reduced by prolonged strikes and also more than any previous year except 1920 when the total was 1,512,000 tons. In 1920, however, the product of the regular news print mills in the United States was supplemented by perhaps 80,000 tons from the so-called marginal mills which did not contribute so heavily to the news print supply in 1922.

"The rapid development of news print manufacture in Canada is strikingly shown by the fact that the output last year was 1,082,000 tons or over 200,000 tons more than the 1920 record of 876,000 tons and 34 per cent more than in 1921.

"In addition to these totals for the United States and Canada, 60,000 tons of news print was produced in Newfoundland and probably about 10,000 tons in the one mill in Mexico which makes news print, thus giving a production of 2,600,000 tons for the North American Continent.

"Shipments from the mills during 1922 more than kept pace with the increased output and while mill stocks are never large, the total at the end of the year was 11,000 tons less than at the beginning and equivalent to only about three days' production.

"The compilation of import figures has been so greatly delayed since the new tariff law went into effect on September 22, that it will be sometime before the total imports of news print from Europe into the United States during 1922 will be known. Ap-

parently, however, the final figure will not exceed 100,000 tons, a decrease of 26 per cent from the 135,000 tons brought in from overseas during 1921. The heaviest importation of European news print was from August, 1921, to February, 1922, when the average was 14,800 tons per month. Since that date the monthly average has been materially less and it does not appear likely that the previous maximum will again be reached.

As the production figures suggest the consumption of news print paper in the United States reached a new high record in 1922. In round numbers it was 16 per cent more than in 1921 and 12 per cent more than during the previous record-breaking year of 1920. Publishers who report their monthly tonnage to the Federal Trade Commission and who use a large proportion of the total output exceeded their 1920 consumption by 14 per cent, the 1919 consumption by 22 per cent, and the 1918 consumption by 55 per cent. Publishers' stocks of white paper at the end of 1922 were equivalent to 36 days' supply at the current rate of consumption.

Adding imports to domestic production and deducting exports there was not less than 44 lbs. per capita of news print paper available for consumption in the United States in 1922 compared with 15 lbs. in 1900.

Advertising was an important factor in determining the quantity of news print used in 1922, but still more influential was the large sizes of the daily and Sunday issues and the growth in circulation. There are between 60 and 70 newspapers in the United States, each having a circulation in excess of 100,000 copies. During 1920 and 1921 these dailies averaged 23 pages each, and during 1922 they rose to 25 pages. For the same year the Sunday issues of these papers averaged 79, 80 and 89 pages respectively.

There are more than 22,000 newspapers in the United States and Canada, of which some 18,000 are monthlies and country weeklies, while the circulation of the English language dailies is approximately 30,000,000 for the week-day issues and 20,000,000 for the Sunday issues.

The total volume of newspaper advertising in the leading cities in the United States showed a substantial increase in 1922 over 1921 but about 5 per cent decrease from the 1920 record figure. The newspapers fared much better than the magazines in the advertising field, since the volume of advertising in the National periodicals was only 4 per cent more in 1922 than in 1921 and was still 34 per cent behind the 1920 total.

The total value of newspaper and periodical advertising in the United States in 1922 was probably \$800,000,000 with \$700,000,000 of it in the newspapers. The large volume of advertising both periodical and newspaper planned for and to be expected during 1923 is a matter of common knowledge. It looks as if the time were not far distant when the total yearly expenditure for advertising by means of the printed page in North America would be one billion dollars.

Paper manufacturing in North America is also a billion-dollar industry with the production of news print making up a very respectable proportion of the total investment and further notable developments under way. The new machines to come into news print production during the first six or eight months of 1923 will have a capacity of 600 tons of paper daily, carrying the total capacity of the industry beyond 9,000 tons daily, of which some 5,000 tons is in the United States and more than 4,000 tons in Canada. Still further extensions are under consideration so that the newspaper publisher wherever he may be in North America during 1923 should be able to get all the paper he needs without going overseas for any portion of his supply.

National Biscuit Co. Buys Crescent Paper Co.

MASSILLIES 111, January 30, 1923.—Crescent Paper Company has been purchased by National Biscuit Company. No change is to be made in the personnel of the management for the present.

Established 1886

Establishment

Year after year, you will find that the organizations that accomplish the big, substantial, worth-while things in every industry are the old-established ones with the new vision—those that are venerable in age and yet are endowed with the rare wisdom of keeping not only abreast of the times, but ahead of them

This organization is old enough to be "safe, sane and sound" It is young enough to be continually alert, progressive and forward-looking. It was founded in 1886, but it still faces the rising sun

M. GOTTESMAN & COMPANY.

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18 East 41st Street

New York, N. Y.

U. S. A.

ALEX G. GILMAN NEW HEAD OF THE ALLIED PAPER MILLS

Succeeds Arthur L. Pratt Who Is Made Chairman of the Board of Directors—Numerous Michigan Paper Mill Concerns Hold Annual Meetings, and Elect Officers for the Ensuing Year—Foremen of the Bryant Paper Co Organize Club—Stockholders of the Kalamazoo Vegetable Parchment Authorize Bond Issue of \$3,000,000—Paper Mill Improvements

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., January 29, 1923. Alex G. Gilman was elected president of the Allied Paper Mills at the annual meeting of the concern held Wednesday morning in the Chamber of Commerce rooms. He succeeds Arthur L. Pratt for the past twenty-two years head of the King Paper Company and the Allied Paper Mills.

Mr. Pratt retires from active duties at his own request, being in poor health. He plans to take an extended western trip and will spend several months on the open ranges of Montana. As recognition of past services, Mr. Pratt was retained as chairman of the board of directors and will preside at the meetings of that body when in Kalamazoo.

Mr. Gilman has resided in Kalamazoo for seventeen years. He got his first paper mill experience in the East and then moved to Ypsilanti, where he was employed by the Peninsular Paper Company. When George Comfort was elected president of the Monarch Paper Company, Mr. Gilman came to Kalamazoo as stenographer and bookkeeper. Very shortly after that he was advanced to the position of secretary and remained with the Monarch until that concern was merged into the Allied Paper Mills, when he was elevated to the post of first vice president. He is extremely popular with the trade also in his home town. A gentle, courteous nature has endeared him to everybody.

Other officers elected for the ensuing year are: First vice-president, George H. Gerphide; second vice president, John A. Pyl; secretary, George S. Davis; treasurer, S. B. Monroe.

The board of directors includes: Alex G. Gilman, A. B. Connable, C. A. Dwyer, J. H. Dwyer, George Henschman, A. F. Kettle, A. L. Pratt, George S. Davis, W. L. Kidder, S. B. Monroe, John A. Pyl, Charles A. Peck, F. S. Runkin, G. W. Ritchie, H. I. Vanderhorst, George H. Gerphide, Kalamazoo; F. G. Read, Richland; J. W. Thompson, I. J. Dixon, Detroit; G. F. Barden, Mrs. Florence G. Barden, Otsego; George D. Cobb, Schoolcraft.

President Gilman's Annual Report

In his annual report to the stockholders and directors, President Gilman outlined the betterments that have been made during the initial year of the Allied Paper Mills' existence, also named various improvements that are recommended for the immediate future.

The retirement of Mr. Pratt is head of one of the five largest paper concerns in the Kalamazoo Valley district is an interesting event in local annals. He was one of the prime movers in the organization of the King Paper Company when it was formed back in 1901 with a capital of \$150,000 and erected a one machine mill. That concern's capitalization was later increased to \$2,000,000 and when it became a division of the Allied Paper Mills, the plant had four machines and a complete coating mill.

A few years ago he erected just south of the city a delightful suburban home, one of the finest estates in this section of Michigan. It has been reported this place is now on the market, in fact it has been quite widely advertised as being for sale. In addition to a palatial residence, it boasts spacious grounds, comfortable quarters

for servants, a lodge house and its own hydraulic electric power plant. This establishment represents an outlay of over \$250,000.

Paper Mill Improvements

The Kalamazoo Sheet Metal Manufacturing Company has just started work on a heavy contract job at the plant of the Hopper Paper Company at Taylorville, Ill. According to Jacob Temple, president and secretary of the concern, it will require three or four months to complete the work undertaken.

Six beaters are to be completely relined with copper, making them available for the production of writing paper. Copper stock spouts are also to be installed, feeding from the beaters to the stuff chests. Sheet copper to the amount of 18,000 pounds has been ordered for this job.

The Kalamazoo Sheet Metal Manufacturing Company has just completed extensive improvements at the King division of the Allied Paper Mills. This is an installation in the machine room designed to take care of condensation of steam above the machines, and prevent serious damage to the roof. By means of fans and heater coils, in at a temperature of 90 to 95 degrees is diffused throughout the regions just under the roof, thus eliminating steam condensation and consequent dampness and rotting. Several years ago a series of huge monitors were built for that purpose, but proved ineffective and have been discarded.

Bryant Paper Co Reduces Directorate

The board of directors of the Bryant Paper Company was reduced from ten to nine in number, at the annual meeting, held Saturday afternoon in the company's administration building. No effort was made to fill the vacancy on the board due to the death of the late Noah Bryant. In the case of the passing of Hale P. Kuntler, his place on the board was filled by the appointment of V. T. Barker, president of the Home Savings Bank. Mr. Barker was duly elected a member of the board at Saturday's meeting.

The result of the election follows: President, Felix Pagenstecher; vice president, W. B. Milham; to succeed Noah Bryant, secretary-treasurer, C. A. Fox; directors, Felix Pagenstecher, C. A. Fox, W. B. Milham, Jos. I. Brown, V. T. Barker, Charles George, J. M. Irish, S. G. Allen, Kalamazoo, and J. I. Brooks, Cleveland.

MacSimBar Paper Co Prospers

An excellent run of business for 1922 was reported at the annual meeting of the MacSimBar Paper Company, held Thursday, at the company's offices, Otsego. The outlook for 1923 is also favorable.

During the past twelve months this concern has completed its new power plant, which is now in use, guaranteeing adequate power to turn the wheels of the big mill at a capacity production.

All officers and directors were re-elected as follows: President, Charles E. Nelson; vice-president, S. W. Simpson; secretary, S. B. Monroe; treasurer, George F. Barden; directors, George D. Cobb, S. W. Simpson, W. F. Kidder, S. B. Monroe, S. G. Earl, Kalamazoo; J. W. Stone, Allagan; J. W. Thompson, Detroit; F. C. Hall, Grand Rapids; J. A. Vanderveen, Holland; C. E. Nelson, G. E. Barden, Otsego.

Foreman's Club at Bryant Paper Co

A Foreman's Club has been organized at the Bryant Paper Company with the following officers: President, George McGuire; vice president, Richard Swartz; secretary, Irwin J. Starrett; treasurer, John Ross.

The initial meeting was held in the company's administration building and following the business session, Felix Pagenstecher, president of the company gave an interesting and instructive talk. Other entertainment features were offered and hot coffee and doughnuts served.

H V P Authorizes \$3,000,000 Bond Issue

A bond issue of \$3,000,000, to be sold when needed, was authorized. (Continued on page 34)

FOR QUALITY PAPERS
USE

A-1 Bleached Sulphite Pulp

MANUFACTURED BY

Kellner-Partington Paper Pulp Co., Ltd.

Borregaard

Norway

SOLE AGENTS FOR U S

J. Andersen & Co.

21 East 40th Street

New York, N. Y.

WAYAGAMACK

KRAFT PULP

Uniform in Quality

Essential for Strength Requirement

The Pulp and Paper Trading Company

21 East 40th St., New York, N. Y.

Sole Agents for United States for

CANADIAN KRAFT, Ltd.

Three Rivers, CANADA

SPANISH RIVER MILLS HOLD THEIR BIG ANNUAL BANQUET

George H. Mead, President and Other Officers of the Company Make Inspiring Addresses—Great Lakes Pulp & Paper Co., Ltd., Seems Likely to Be Successful in Arranging 15,000 Horsepower Contract With Hydro Electric Power Commission—Justice Middleton in Toronto Dismisses \$40,000 Action for Timber Trespass Against J. R. Booth—Other News of the Toronto Trade

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 29, 1923. At the seventh annual banquet of the Spanish River Pulp and Paper Mills, Limited, in Sault Ste. Marie on January 21, the recent timber probe was touched upon by a number of officials, who all expressed satisfaction that the company had emerged from the investigation in a considerably stronger position than when it was drawn into it. A splendid address was delivered by President George Mead of Dayton, Ohio, dealing with the past operations of the concern, its bright future and the very satisfactory relations existing between the company and its employees. Addresses were also given by Colonel Thomas Gibson, Col. C. H. L. Jones, the latter general manager, George R. Gray, manager of the wood operations, Hon. Dr. R. J. Munro, M. P. for Fort William, and P. B. Wilson, vice-president. Brief speeches were also given by plant representatives from the Sault, Espanola and Sturgeon Falls, all dealing with plant operations and the close and satisfactory connection between the company and the men. The financial condition of the concern after several years of world depression was a theme that predominated most of the addresses.

Great Lakes Paper Co. Arranges for Power

The independent negotiator, trying to arrange a 15,000 horsepower contract between the Hydro Electric Power Commission and the Great Lakes Pulp and Paper Company, Limited, have about come to terms after frequent conferences in Toronto with F. A. Allsted representing the company, and it is likely a contract will be submitted to the Hydro within a few days. It is understood that Messrs. Hiney and Ross, members of the Gregory Commission, assisted by Lloyd Harris, are the independent parties who have been working on the proposition with the approval of the Durney Government. The contract has to do with the Nipigon power system, which is running behind \$300,000 per year at present. This fact may have made the company feel that it could exact favorable terms. On the other hand the company will not be taking power for two years, and will be unable to get power from any other source. One of the hardest matters to adjust was the mutual enforceability of contract. The company claimed that if it were compelled to take a block of power whether or not a strike was on at the plant or other mishap occurred, then the Hydro should be under an obligation to furnish power, no matter what its difficulties.

General News of the Trade

Mr. Justice Middleton in Toronto last week dismissed the action for \$40,000 instituted by the Attorney-General of Ontario on behalf of the King & Golden Lake Timber Company, Limited, against J. R. Booth, of Ottawa. The Attorney-General alleged that Mr. Booth had trespassed on limit 122 and had cut 200,000 feet of pine timber and logs valued at \$40,000. The question resolved itself into one of disputed boundaries.

Sir William Price, millionaire paper and power magnate of the province of Quebec, spent a few days in Toronto last week, in company with his wife. Sir William in an interview said that he was out of touch with politics but declared that fully nine-

tenths of the people of Quebec were in sympathy with the liquor policy of the present Government.

The Fort William Paper Company, Limited, is now shipping paper from its new book paper mill in Fort William. No. 1 machine is just going through the tuning up process and is only running at about half its capacity. The second machine is being installed and will soon be in operation.

It was stated at the head offices in Toronto of the Provincial Paper Mills, Limited, that they had booked up a considerable tonnage of book paper for their new mill at Port Arthur and that the outlook for big business for the new plant was bright. Good progress is being made with the equipping of the new mill which is expected to be in full operation very shortly.

At the annual meeting of the Ritchie Paper Company, Limited, held in Toronto a few days ago the annual statement showed a satisfactory year's business and prospects for future business were reported to be bright. F. I. Ritchie was elected president, F. I. Gun, vice-president, and M. J. Ritchie, secretary.

F. I. Ritchie, head of the Ritchie Paper Company, Limited, York Street, Toronto, was elected a member of the board to represent the Toronto Board of Trade on the board of the Canadian National Exhibition.

Additions to the plant of the Dryden Paper Company, Limited, at Dryden, Ont., including a water power development of 1,400 horsepower, a specialty paper machine and a new ground wood unit, are expected to be in operation within the next three months. These additions should add materially to the crumming power of the company, particularly in view of the improving conditions in Dryden products such as kraft and kraft pulp.

HEADS ALLIED PAPER MILLS

(Continued from page 32)

by the stockholders of the Kalamazoo Vegetable Parchment Company, at the annual meeting, held Tuesday afternoon in the Community House.

Reports for the past year showed that business has been generally satisfactory, while good progress is being made on the company's vast building and expansion program.

The following board of directors was re-elected for the ensuing year: Jacob Kindleberger, W. J. Lawrence, C. S. Campbell, A. P. Connally, W. M. Loveland, Austin B. Read, Charles A. Peck, C. H. Stearns, William O. Jones.

The officers are: President, Jacob Kindleberger, first vice-president, Frank Mosteller, second vice-president, James Greenlee, Chicago, secretary, S. Ward Kennedy, treasurer, C. S. Campbell.

General News of the Trade

B. C. Dickinson, president of the Standard Paper Company, C. S. Campbell, treasurer of the Kalamazoo Vegetable Parchment Paper Company, and Bertrand Hopper, secretary and general manager of the Kalamazoo Stationery Company, have been re-elected directors of the Kalamazoo Country Club. They are inveterate golf enthusiasts.

A. H. Dwight, president of the Hawthorne Paper Company, accompanied by Mrs. Dwight left this week for Florida, where they will remain until early in May.

S. B. Monroe, treasurer of the Allied Paper Mills, has been in New York City this week on business. Clarence A. Bradford, vice-president and sales manager of the Rex Paper Company, spent the past week in Chicago calling on the trade.

A loss which will run into many thousands of dollars occurred when the Bardeen division of the Allied Paper Mills was the scene of a conflagration, Friday, January 19. Fire broke out in the coal elevator of mill No. 1 and extended to the stock room. While the loss from the flames was severe, the water damage to stock and pulp was far greater. A check is now being made and an accurate report will soon be available for the insurance companies.



The Beloit Flat Screen

One that is in demand by a large
number of Particular

MILLS

who realize its rigid construction,
large suction area and
dependability



BELOIT IRON WORKS

BELOIT, WISCONSIN



PAPER DEMAND IN CHICAGO GROWING MORE SATISFACTORY

**Recent Advances Have Had Beneficial Effect on the Market—
Additional Price Increases Are Expected and This in
Connection With the Bullish Reports Made by Paper
Salesmen Is Said to Be Forcing Buyers Into the Market—
Demand for Book Papers Is the Best That Has Been
Experienced in Some Time—Demand for Waste Paper
Is Active and Higher Prices Are Offered**

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, January 29, 1923. Conditions in every branch of the Chicago paper trade continue to improve and indications point to even greater progress in the very near future. Inquiries are numerous and orders are being received in a satisfactory manner. Mill representative and paper merchants in this city state that since the middle of the month they have closed a number of contracts for immediate delivery that have been pending for some time and that now they are working on prospective business that should develop in the next few weeks. The recent advance in the price of coated paper has had a healthy effect on market conditions. Other advances are expected and the bullish reports emanating from paper salesmen are without doubt forcing buyers into the market. Prices generally are firm.

During the inventory period of December 10 to January 15, the local market was a little dull but inventories have been taken and publishers, printers and other paper consumers are buying much more freely than had been hoped, although some reports are to the effect that purchases are for small quantities.

Book papers are receiving the greatest attention at present. The improved conditions of general business and the almost universal employment of labor has given an impetus to business that has not been noticeable in the past few years. Manufacturers and sales organizations are putting out large quantities of advertising matter. It is noticeable that the better grades of paper are being used to illustrate these leaflets, catalogues and price lists.

There is an active demand for sulphite bonds and ledger stock. A. N. Forsythe of the Forsythe Paper Company, which handles the products of the Martin Contrue Company, I. Sengerties, N. Y., and the Chillicothe Paper Company, Chillicothe, Ohio, says that business in this line was a little slow up to January 15, but that the improvement since that date has been most encouraging. He states further that the two companies mentioned have plenty of orders on their books and are running their plants to capacity. While the orders received have been all that could be expected, Mr. Forsythe believes that business soon to be placed will be of more substantial tonnage. He finds that prices are firm with a tendency to stiffening. He also reports an active demand for coated papers.

Others in this market record similar views. The future is expected to produce a permanent improvement that will result in an evenness of business activity and a volume of business that has been foreign to this market for some time past.

Labor for Logging Is Scarce

Northern mills are reported by their representatives in this city to be running to capacity. While woodsmen are still scarce in certain sections of the log gathering territory, labor conditions are said to be greatly improved. When road work was discontinued in Wisconsin last season, it was hoped that some of the labor would find its way into the woods and help to fell trees this winter. Evidently the high wages that these men received during the summer and fall had a great deal to do with an almost universal desire on their part to spend the winter in the larger cities. There has been

plenty of snow in the neighborhood of the logging camps and conditions have been ideal for the harvesting of logs. In view of this and the fact that there exists such a great demand for products of the forest, it is deeply regretted by lumbermen and pulpwood producers that there is so much difficulty involved in the procurement of labor.

Active Demand for Paper Stock

Strenuous efforts are being made by the small dealers to gather stocks of old paper. The higher prices that are now being offered by the mills and the scarcity existing at present has given an activity to this market that is noticeable right straight down the line to the housewife, who is now paying more attention to the value of old newspapers and wrapping papers than she has been doing. While the low production of paper last year will naturally be reflected in a shortage of old paper stock this year, there is now more of an incentive to save this much needed commodity and it is believed that less of it will go up in smoke.

February Conventions in Chicago

No less than four conventions of interest to the paper trade will be held in Chicago during February.

On February 6 the Writing Paper Manufacturers' Association will meet at the Drake Hotel.

The Service Bureau of the Wrapping Paper Manufacturers' Association will meet at the Congress Hotel on February 7.

The second meeting of the Western Bond Division of the American Pulp and Paper Mills Superintendents' Association will be held at the Congress Hotel on February 10. The first meeting of this division was held in Chicago on November 25, last, at which time it was practically decided to meet quarterly. Claude Nicely of the La Salle Paper Company, South Bend, Ind., is chairman of this division.

Chicago Trade Notes

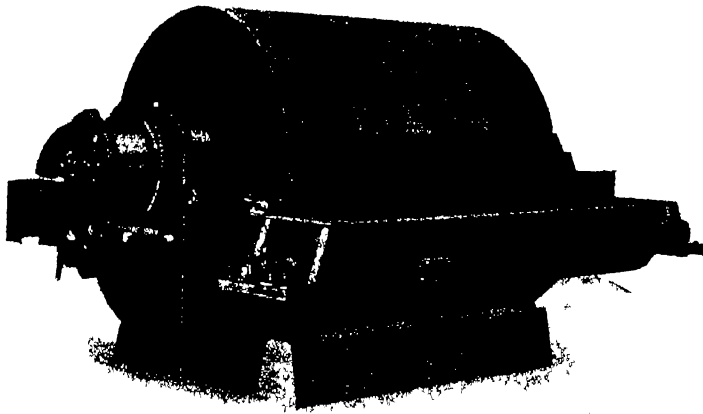
The School Stationers Corporation, 313 South Dearborn street, has been granted a charter by the Illinois Secretary of State to manufacture and deal in paper and paper products. The corporation is capitalized at \$15,000. Its incorporators are J. F. Cook, M. D. Goodman, S. J. Hachman, H. J. Heart and Louis J. Kuhn. M. D. Goodman, 111 West Monroe street, is correspondent.

The annual report of the Creamery Package Company for the fiscal year ending November 30, 1922, just made public, contains no income account but a comparison of the balance sheet indicates that after dividend payments there was a deficit for the year of \$55,774. Net worth of the 145,000 shares of common stock is shown to be \$5,970,943, compared with \$6,026,717 at the close of the preceding year. Following is the balance sheet as of November 30 last: Cash, \$756,266; bills and accounts receivable, net, \$1,389,988; inventories, \$2,299,778; investments, \$823,897; sundry prepaid and accrued items, \$18,404; land, buildings, etc., less reserve for depreciation, \$1,976,000; patents, \$750,164; total assets, \$7,976,000. Accounts payable, \$175,290; accrued commissions, \$127; sundry reserves, \$1,554,700; preferred stock, \$275,000; common stock equity, \$5,970,943; total liabilities, \$7,976,000.

The Chicago paper trade is taking a keen interest in reports of progress of the Paper Industries Exposition, to be held at the Grand Central Palace, New York City, during the week of April 9 to 14.

W. F. Dwight, president of the Dwight Brothers Paper Company, who has been spending the past month in Florida, is reported to be leaving the South for a tour of several European countries.

The Import Paper Company, with offices and salesrooms at 620 South Wabash avenue, has just issued a special catalogue and price list for "multigraph users," in which attention is called to the adaptability of certain papers for multigraph work. Leon Witkowski, secretary and treasurer of the company, states that for this class of work bond papers are recommended, because of their ability to "take" the printing and are easily "fed" through the machine.



Why the

OLIVER

is supplanting the

Washing Pit

Oliver Filters are supplanting other systems for washing Soda or Kraft pulp because they wash more efficiently, and effect important economies which quickly pay the cost of Oliver installation.

Pulp is washed in a thin sheet instead of in a mass several feet thick, thus insuring direct contact of the wash water with every particle of fibre. A thorough and uniform displacement of cook liquid is secured, automatically insuring a non-variable output at a uniform rate.

The following economies soon pay the entire cost of an installation of Olivers.

1. Wash room labor decreased 60%.
2. Soda losses decreased 75%.
3. Pulp loss entirely eliminated.
4. Floor space reduced 75%.
5. Pulp washed with 1/3 less hot water.
6. Black liquor returned to evaporators with 1/3 less dilution.
7. Amount of pulp in process greatly reduced.
8. Time of pulp in process is enormously decreased.

Installation costs for Oliver Filters are lower than for either diffusers or pan stations. A filter with 100 sq. ft. of cloth area handles 25 to 30 tons in 24 hours. Our extensive experience is at your disposal without obligation. Let us help you reduce your wash room costs.

OTHER OLIVER PRODUCTS

Oliver Vacuum Pumps
 Oliver Air Compressors
 Oliver Centrifugal Pumps
 Oliver Worm Gear Speed Reducer
 Olivette Acid Pumps
 Centrifugal Pumps

Oliver Continuous Filter Co.

San Francisco
503 Market St.

New York
33 W. 42nd St.

London
11-13 Southampton Row, W. C.

ACTIVE DEMAND FOR PAPER IN THE PHILADELPHIA MARKET

Trade During January, According to Well Qualified Authorities, Has Surpassed All Precedent—Some Lull in the Demand for Wrappings Is Experienced During the Closing Days of the Month But This It Is Believed, Is Only a Temporary Condition—Garrett-Buchanan Co. Starts Construction Work on New Warehouse—Dill & Collins Distributors Hold Largely Attended Conference

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa. January 30, 1923.—It beat all precedent in the opinion of so well qualified an authority as President Joseph B. Mitchell of the Quaker City Paper Company, whose continuous years of service in paper distribution now give him the honor of being the oldest in point of active service of any thus engaged in Philadelphia, how January business began and how it is continuing. Commenting on conditions generally and not only with respect to his own enterprise, Mr. Mitchell said during the week that in his long business career, he had never known business so consistently steady and active as it was during the first half of this month, and the record of the last half did not fall far short of the promise of the earlier period. There were changes, however, as between the coarse paper and the fine paper activity. Last week the coarse paper market which had been having a little the advantage of the fine paper with regard both to number and average size of orders, fell a little behind in city business, although out-of-town sales kept up with entire satisfaction. The local lull in the wrapping paper business is variously explained by many of those engaged in it, but all are of opinion that it is of but a temporary character. Meanwhile, values in the coarse paper market, despite the slowness of city trade, to firm advances are believed to be imminent and rather drastic increases are expected by some. At least two important factors, one a monthly and the other a New England producer, sent out notices to the trade during the week of the withdrawal of all prices on their specialties—candy box board of various grades, as well as the general line of knots, mummies and the better grades of coarse paper. The very lively nature of this market, however, is the continued activity shown by all grades of paper board used in box manufacture and the almost daily increases in prices. Increased cost of raw materials and the higher wage scale is regarded as the contributing cause for these advances.

January Sales Excellent

In the fine paper field, there were no outstanding features during the week, merely a steady continuance of the sound, wholesome and slowly increasing business. The Paper House of Pennsylvania, to point merely to one example which, however, is typical rather than isolated, on several days of the past week booked more orders than on any other days during the last six months, and while quite a number were not of large size, a growing percentage of them involved rather large amounts.

The paper stock market reflects the condition existing among the board producers of a heavy output to take advantage of the present situation of large buying and all mixed and commons, old news and container millmills are being snapped up by the mills wherever offered at outside ruling quotations. While activity in the better grades of stock was not so great, all are moving along satisfactorily and the tide is running millward quite as fast as it is bringing stock into the warehouse of the packers from the smaller dealers and collectors.

Garrett-Buchanan Warehouse to Start

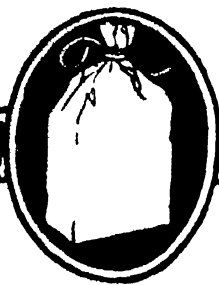
Actual construction work on the new combined garage and warehouse of the Garrett-Buchanan Company, which long has been under

consideration, but which was held in abeyance pending changes in the plans, is to begin in the very near future, a permit for the construction having been taken out during the week. There is involved an outlay of approximately \$60,000 for the construction of a steel and reinforced concrete building, occupying the double front of 3 and 4 South Marshall street, 41 feet broad, and extending towards Sixth street 65 feet. The site was the original home of the Garrett-Buchanan Company a quarter century ago, when its present active manager, Vice-president Morgan H. Thomas, began his association with it. The plans call for a seven-story building, with basement, the first floor to consist of an enclosed loading platform and shipping room, which will also be utilized at night as a garage for the company's fleet of six Auto cars and one Packard. The upper floors will be supported on great girders from heavy steel columns, which will give the first floor a complete clearance for its entire width. This will enable the unimpeded entrance and exit of the firm's horse-drawn trucks as well as its automobiles, and will give splendid facilities for shipment. The basement beneath will be lowered three feet to conform with that under the Sixth street headquarters of the Garrett-Buchanan Company, and the six floors above will be given over to the storage of both coarse and fine papers. Because of the modern type of construction and the greater carrying powers of these floors, as well as of the additional stories, the storage capacity almost will be tripled. There are on the site now two three and a half story converted dwellings, and these, of course, are to be razed. When the McGuire-Hare Company was in possession of the Sixth street properties on which the two at 3 and 5 South Marshall street about there was constructed a modern five-ton elevator built so large in anticipation of the construction now to be pushed forward and this will be utilized to reach the upper floors of both the new structure and of the present main building of the Garrett-Buchanan Company. It is expected that the new structure will be ready for occupancy by the middle or end of September.

Goldman Company to Expand

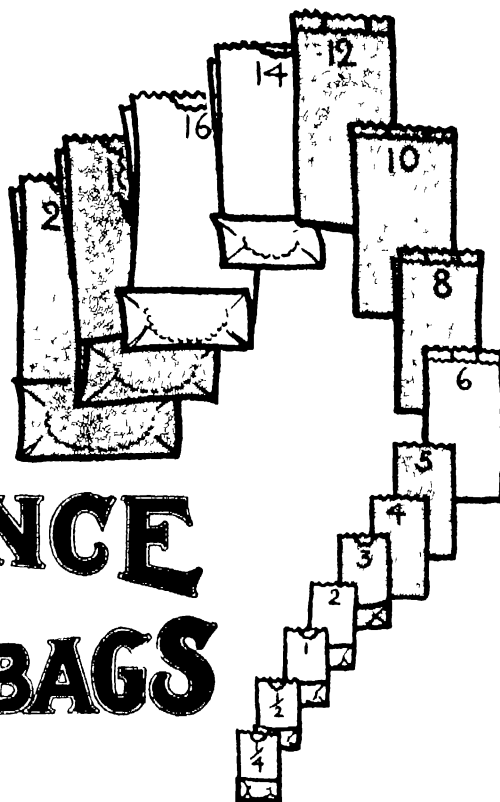
Behind the application for charter made during the week for the incorporation of the Goldman Paper and Paper Stock Company, there lies a story in which there is some romance of business and which gives another illustration of possibilities in America if there is push and persistence behind the effort. The new incorporation will take over the business established twenty-eight years ago by Charles Goldman and since conducted merely as an individual firm. Mr. Goldman came to this country but four years before he entered the paper stock business, a penniless Russian immigrant with a family, all of whose members combined to advance their common interest. Now, as a result of more than a score of years' application to the stock business, and subsequently of real estate ventures, to which he is giving almost his entire time, he is the owner of properties with values running into six figures. The new incorporation will have as its president and treasurer Harry Goldman, a brother of Charles, but who has been associated with him in the paper stock business for the last twenty years, and as secretary, George D. Goldman, son of Charles, who likewise for several years has been associated in the business and who recently returned from an extensive trip through Europe, during the course of which he established connection with pulp mills in Sweden, Norway, France, England and Finland, the new enterprise proposing to devote much of its business attention to pulp importation and sales. The financial interest in the concern is also held by Emil Rosenthal, a brother-in-law of Charles Goldman, and whose connections with the old enterprise dates back a little more than a decade. The Goldman business was principally carried on in the warehouse owned by Mr. Goldman at 333 North American street, although his executive offices and from which he conducted his extensive real estate operations are located in the building owned by him at 725 Walnut street. These two establishments will be maintained under the new or-

(Continued on page 40)



It—

there's a question in your mind as to quality, uniformity, dependability or salability—that question will be answered satisfactorily by



LAWRENCE GROCCERS' BAGS

An established line of undisputed excellence—absolutely complete, so that it's unnecessary for you to clutter up your warehouse with "this, that and the other" brand. Will make both friends and profits for you—and we can prove it.

James Lawrence, President

THE LAWRENCE BAG COMPANY
MIAMISBURG, OHIO

ACTIVE DEMAND FOR PAPER IN PHILADELPHIA MARKET

(Continued from page 38)

ganization and, in addition there will be occupied, in part, an immense warehouse, recently purchased by the Goldman interests at 414-416 South Front street containing thirty thousand square feet on its four floors and valued at \$700,000. This building is being completely modernized and is being equipped with electrical elevators and other requirements for the enlarged business which will concern itself not only with paper stock but as well with pulp and with coarse paper. Some converting of these is to be done and machinery for shipping and shooting is to be installed. A general stock of kratts, millis and similar papers will be carried. Although Mr. Goldman will not abandon his very profitable real estate business, he will devote much of his time to the buying and selling of imported paper stock.

Dill & Collins Sales Conference

A two day's business conference in the course of which there was an equally interesting banquet was given last week by the Dill & Collins Company to representatives of the twenty five distributing points it now maintains throughout the United States either as branch offices or as distributors engaged in the fine paper trade. The attainments of 1922 were reviewed and the aspirations of 1923 as a banner year in the firm's history were defined. Business sessions began on Wednesday morning of last week in the Philadelphia offices and were continued in the afternoon. In the evening a banquet was spread in the rooms of the Down Town Club in the Bourse at which there was in attendance of one hundred and thirty, the principal address being made by John Lee Mahin of the Federal Advertising Agency Incorporated of New York. It was an inspiring boost talk on salesmanship. President Grellet Collins, of the Dill & Collins Company welcomed all to the feast, and Sales Manager W. H. Lloyd presided. Sales talks and conferences were continued on Thursday morning and in the afternoon many of those in attendance visited the Dill & Collins Company's mills in Port Richmond and in Manayunk. Among others who made addresses during the course of the several meetings were Mr. Lloyd who gave a resume of sales results in 1922 and prospects for 1923. H. P. Collins, secretary of the Virginia Carolina Tire and Wood Company who spoke particularly of its pulp production. G. N. Collins, assistant general manager who told the story of the D & C Mills. M. Gibbons Neff, advertising manager who summarized the work of his department. G. W. Fenchbresque whose theme was 'All in the Days Work' and President Collins who spoke on the firm's business policy. Included among those in attendance were representatives of the two Philadelphia distributors of the Dill & Collins Company, the Thomas W. Price Company which has had the account for years, and the Wilcox Walter Furlong Paper Company, recently appointed distributor, and several others which have just taken on the Dill & Collins line, among them the Minneapolis Paper Company and the F. T. Stillwell Company of St. Paul, the Carpenter Paper Company of Omaha and Des Moines, the Acme Paper Company of St. Louis, the Miller & Wright Paper Company of New York and the Union Paper and Twine Company of Cleveland and Detroit. Those who attended the sales conferences and the banquet are as follows:

PHILADELPHIA OFFICE—Grellet Collins, D. W. Bond, W. H. Lloyd, M. F. Roberts, W. F. Fassnacht, Harold B. Collins, W. C. Scott, W. R. Ingersoll, Harry Beckman, I. B. D. Neuhauser, R. B. Thomas, C. J. McIntyre, G. W. Fenchbresque, I. A. S. Hunter, P. C. Weidner, M. F. McCann, R. I. McCall, I. S. Brown, H. I. Coffman, Malcolm McQuaid, Jesse MacIntyre, R. I. Ross, M. Gibbons-Neff.

NEW YORK OFFICE—O. F. Marquardt, C. J. Brown, W. J. Robinson, G. C. Robinson, T. H. Hogan, H. Levie, J. Shuttleworth.

BOSTON OFFICE—J. C. Calabro, W. H. Cowles, F. F. Howie, F. P. O'Neil.

PHILADELPHIA OFFICE—N. A. Byers, W. A. Kammerer.

ROCHESTER OFFICE—Moise Gordon.

CHICAGO OFFICE—C. H. Reeves.

DELAWARE MILLS—M. W. Hopkins, I. H. Mitchell, Ralph Man, J. R. Kessler, George Ochsle, I. B. Hipwell, J. I. Curley, W. F. Maull, I. Bingham, I. Bingham, W. Fischer, A. Shearer, C. Lynch, Charles Shubert, I. McRoy, G. I. Jeffers, H. W. Taylor, G. N. Collins, Walter Dill, Otto Quante, Elmer Allen, John Hand, Charles Cheloden, W. J. McClenighan, J. Willi, Henry Ochsle.

HEAR ROCK MILLS—J. Wilde, I. Bickman, J. Van Fossen, A. Van Fossen, A. Hooper, I. Hanson, Jim Puscy, J. McClenighan, J. G. Pinsky, W. I. Webster, C. Lowery, George Castor, Jos. Auman.

FEDERAL ADVERTISING AGENCY, INC.—John Lee Mahin.

PENN. NATIONAL BANK—M. G. Baker.

FRANK MOLLITT & TOWNE—I. W. Wilson.

ACME PAPER COMPANY—I. J. Wright, J. W. Reilly.

THE PAPER MILLS COMPANY—G. I. Baker, D. R. Kimbark, H. K. Zimmerman, I. C. Ponell, I. I. Lee, Jr., Forest Hopkins.

WILCOX-WALTER FURLONG PAPER COMPANY—I. S. Furlong, W. S. Wilson.

CLEVELAND & WOODS COMPANY—H. S. Frazier, Cincinnati, C. M. McGrath, Pittsburgh.

MINNEAPOLIS PAPER COMPANY—I. G. Ashley.

MILLER & WRIGHT PAPER COMPANY—I. P. Appleton, G. S. Puz, and A. Q. Brunschoff, A. M. Day, G. R. Dinkel, P. H. Dismore, James Glassey, W. I. Hadden, C. D. Husson, Sidney Martin, W. P. Maxwell, J. M. O'Connell, Harry Remick, F. J. Sherwood, W. H. Schwartz, Robert Schmidt, R. W. Wilbur, Thomas E. B. Vander-voet, W. B. Vanderboer, M. W. West, F. I. Walter, J. B. Whiton.

THOMAS W. PRICE COMPANY—J. B. Tuttle, H. J. Smith, Ruben Levack, I. F. Leveck, J. M. Hood, W. J. Boyd, J. P. Schmidt, D. W. He, W. A. Watts, Chris. McGonigle, Elmer Watson, D. H. Thomas, Jos. Lombard, N. W. Fort, Willis Benner, T. R. Fort, Jr.

UNION PAPER & TWINE COMPANY—C. A. Bicknell, Cleveland, W. Holliday, Cleveland, W. C. McLaughlin, Detroit.

Ruhr Developments Interest

French occupation of the valley of the Ruhr has a very direct business interest for the Philadelphia trade importing news print and fruit because of the location therein of important German paper mills. How important will be the effect, however, on paper importation remains to be seen. Most of the news print coming into this port comes from Finland and Denmark, and represents to an extent overproduction because of the very much decreased purchase by Great Britain of these products. German importations have not been very large. Whether continental supplies now looked after by Germany will be cut down because of the French occupation and thus indirectly will decrease the amount available for this market remains to be determined. The situation however is being watched with close interest.

General Trade News

There was added yesterday to the delivery service of the Paper House of Pennsylvania a speedy three-quarter-ton auto truck for rush deliveries in city limits. The Paper House supplied the news print used in the production of miniature editions of the *Record* newspaper, which were gotten out first as a souvenir for the Poor Richard Day banquet of the club of that name and afterwards on the occasion of a testimonial dinner to John B. Dwyer, the newspaper's managing editor. Concurrent deliveries during the week

(Continued on page 42)



Foldwell
TRADE MARK
REGISTERED

Coated Book
Coated Cover
Coated Writing

HERE is the Foldwell advertisement that will appear in the February issues of magazines reaching printers, advertising managers, sales managers and executives throughout the country. This particular advertisement will run in printers' publications only—the appeal being changed to fit the other magazines on the list. ¶ This is the second advertisement of the new Foldwell series—a series designed to show the advantages and applications of the Foldwell superiorities proven in the famous travel test. ¶ With this publication series and the comprehensive direct-by-mail phase, Foldwell advertising for 1923 will be more intensive than ever.

CHICAGO PAPER COMPANY

Manufacturers

801 South Wells Street, Chicago

Recent Incorporations

PRACTICAL PAPER BOX COMPANY, Brooklyn, New York. Capital, \$20,000. Incorporators: M. Kessler, J. L. Gross, M. Hecht. Attorney: J. Bogert, 63 Park Row, New York.

T. & K. PAPER BOX MANUFACTURING COMPANY, Manhattan, New York. Capital \$10,000. Incorporators: C. Eisen, J. Perlman, M. Bookspan. Attorney: I. Bernstein, 305 Broadway, New York.

UNITED STATES FIRE BOX CORPORATION, Manhattan, New York. Capital \$30,000. Incorporators: M. Jacobs, C. Arnow, S. Flaumenhaft. Attorney: M. G. Holstein, 165 Broadway.

STEVENS PAPER MILL, INC., Windsor, Connecticut. Manufacture paper. Capital \$200,000.

UNCAS PAPERBOARD COMPANY, Norwich, Connecticut. To manufacture paperboard. Capital \$1,500,000. Incorporators: James F. Smith, Frank W. Provance and Joseph H. Eilers.

SAXEN PAPER MILLS, Skimoches Falls, New York. Capital \$200,000. Incorporators: J. A. Saxer, A. F. Hoffman, G. B. Hiscok. Attorney: A. A. Costello, Syracuse.

MERKHAM PAPER COMPANY, Phoenix, New York. \$20,000 to \$101,000.

ACTIVE DEMAND IN PHILADELPHIA

(Continued from page 40)

of foreign news print delayed in transportation brought to the Paper House four casks of this paper, and it is now in possession of upwards of 120 tons of sheet news.

H. C. Davis, formerly of the Whiting-Patterson Company and in charge of its coarse paper business, sent out during the week formal announcement of the establishment of his own business, with headquarters in the Drexel building, as told some time ago in these columns. He will deal largely with the distribution trade.

There being in the strong box of the Paper Stock Dealers' Association of Philadelphia quite a tidy little sum from dues, and there is existing a strong conviction on the part of its members that that money should not be kept out of circulation, it is proposed in the not distant future to hold another of the banquets, which, since the decline of regular business meetings, have been the outstanding events in association affairs.

The Charles Beal Company send out this week a broadside on Warren's Standard Printing papers, the firm being one of the few Philadelphia distributors for the S. D. Warren Company. The publication illustrates effectively uses which have been made of Warren papers in catalogues, letterheads and other advertising pieces, gives a complete list of all the Warren grades, together with succinct suggestions for their most effective use. It is printed on library text white, 32 x 44, 104.

M. H. Updyke of the Rochester Wax Paper Company, Rochester, N. Y., was one of the few visitors who called on the trade during the week.

Application has been made to the Foreign Trade Bureau of the Commercial Museum for the names of manufacturers of paper and allied stationery lines by a merchant in Kyoto, Japan, who is seeking to represent firms in the Orient.

To Investigate Reforestation Problems

WASHINGTON, D. C., January 30, 1923. A resolution has been introduced in the Upper House by Senator Harrison of Mississippi calling for the appointment of a committee of five to investigate 'problems relating to reforestation.' In presenting his resolution, Senator Harrison said:

'The question of reforestation is one of the most important, I think, with which we might deal. There are millions of acres of land where the forests have been cut and nothing has been done toward reforesting them. I know that applies to my section, and it applies to the western section. I venture to say that this coun-

try has done less toward reforestation than any other civilized country on the globe.'

The resolution (S. Res. 398), which was referred to the committee to audit and control the contingent expenses of the Senate is as follows:

'Resolved: That the President of the Senate appoint a committee to consist of five members of the Senate, three from the majority party and two from the minority party, to investigate problems relating to reforestation, with a view to establishing comprehensive national policy for lands chiefly suited for timber production in order to insure a perpetual supply of timber for the use and necessities of citizens of the United States. The committee shall make a final report of its investigations with recommendations to the Senate not later than December 2, 1924. For the purpose of this resolution the committee is authorized to sit and act at such times during the sessions or recesses of the Sixty-seventh and Sixty-eighth Congresses and in such places within the United States to hold such hearings, and to employ such clerical and stenographic assistants as it deems necessary. The cost of stenographic service to report such hearings shall not be in excess of 25 cents per folio. The committee is further authorized to send for persons, books and papers to administer oaths, and to take testimony. The expenses of the committee shall be paid from the contingent fund of the Senate.'

The Vice president has named the following special committee to make a study of reforestation under the Harrison resolution: Senators Moses of New Hampshire, McNary of Oregon and Cullen of Michigan (Republicans), and Harrison of Mississippi and Fletcher of Florida (Democrats).

15,000 Workers Strike in Sweden

According to cable despatches received Tuesday and Wednesday of this week, practically every Swedish pulp mill is down as a result of a failure on the part of mill owners and employees to arbitrate a wage agreement. A potential annual production of approximately one million tons of pulp is thus tied up and 15,000 workmen are idle. Workers are still holding out for a 10 to 20 per cent increase in pay while mill owners are seeking to reduce wage 20 per cent. A successful arbitration in the near future appears doubtful in the estimation of New York pulp authorities.

Michigan Paper and Allied Firms Increase Stock

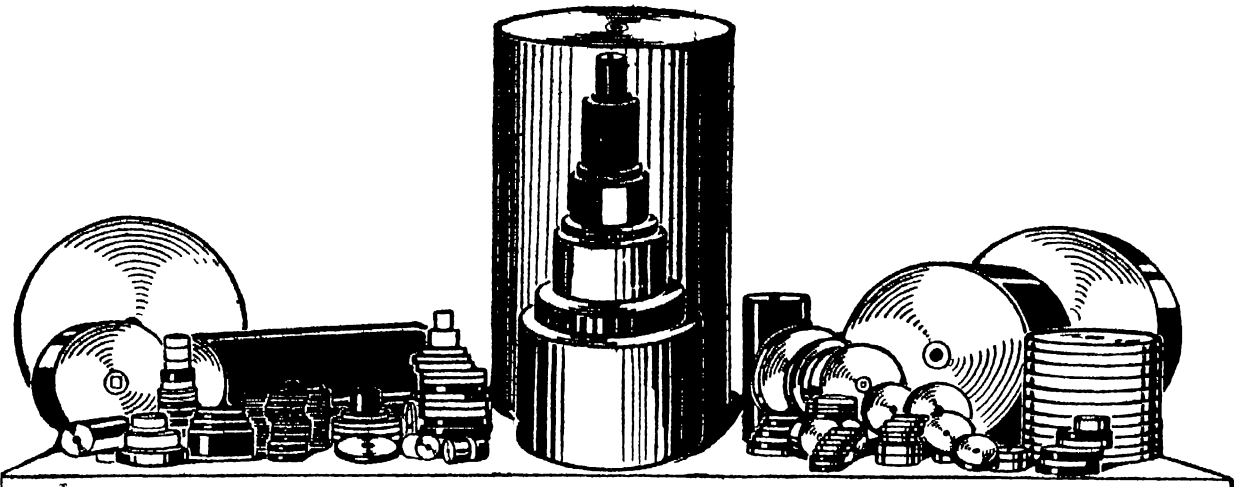
KALAMAZOO, Mich., January 29, 1923.—The Michigan Securities Commission has passed favorably on increases in capital of the following concerns directly connected with the paper industry: Seaman Patrick Paper Company, Detroit, \$65,000 and 9,750 shares non paid to \$200,000 and 10,400 shares non paid; Gregory, Mave & Thom Company, Detroit, \$350,000 to \$600,000; Franklin Press, Detroit, \$42,000 to \$120,000; Weiss Manufacturing Company, Monroe, \$500,000 to \$1,000,000.

Ertle Paper Co. to Build at Zanesville

ZANESVILLE, Ohio, January 29, 1923.—The Ertle Paper Company has been incorporated under the laws of Ohio and will begin building a writing paper mill at this place. The mill will be equipped with two Fourdriniers trimming 178 inches. The plant will be electrically driven throughout and it will be one of the most modern paper mills of its kind in the country. It is expected that building operations will be begun about March 1. J. A. Ertle, of Middletown, Ohio, heads the new venture.

Urges Government Owned Paper Mill

WASHINGTON, D. C., January 31, 1923.—In one of the most exhaustive reports ever sent to Congress by a Public Printer, George H. Carter, in his annual report to that body Monday, of this week strongly advocated Government ownership of a paper mill to supply the needs of the Government Printing Office, as well as other branches of the Government service, as an economical measure.



**“THE BIG ONES MAKE THE LITTLE ONES”
SAY THE PAPER MERCHANTS
WHO “ROLL THEIR OWN”**

**A CAMERON ROLL-WINDER MAKES
A SMALL STOCK OF LARGE ROLLS
COVER MORE MARKET REQUIRE-
MENTS THAN A LARGE STOCK OF
SMALL ROLLS**

CAMERON MACHINE COMPANY
Builders of slitting and roll-winding machines exclusively
61 POPLAR STREET || BROOKLYN, N. Y.

New York Trade Jottings

Irven Joseph, former New York paper stock merchant, has allied himself with the Marquardt-Hewitt Corporation, of 250 Front street, New York

Herbert P. Brock has rejoined the sales staff of the Waste Material Trading Corporation, of 135 Broadway, New York. His attention will be devoted especially to the sale of papermaking rags.

Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association, has returned from Washington after a conference of the Hoover Committee held last Thursday and Friday

A combined luncheon and meeting of the members of the Association of American Woodpulp Importers was held at noon today, Thursday, February 1 in the Uptown Club, 42nd street and Madison avenue, New York

M. Steinberg & Son, Inc., dealers in new cotton cuttings and other paper mill supplies of 34 Howard street, New York, will be located in their new warehouse at 163 Mercer street, New York on and after Thursday of this week

The New England Envelope Company of Worcester, Mass., has recently established a New York office at 125 White street where a complete stock is carried, particular stress being laid upon the company's "Necco" window cut envelopes

Henry S. Braddon, envelope dealer of 487 Broadway, New York, yesterday filed a petition in bankruptcy, listing liabilities of \$8,095 and no assets. The principal creditors listed are Sherrin Envelope Company, \$1,682; Sheppard Envelope Company, \$1,191; and C. & M. Envelope Company, \$1,061

O. M. Potter, secretary of the Woodlands section of the American Paper and Pulp Association, returned to New York Tuesday of this week after attending the sessions of the Committee on Pulp and Paper at the meeting of the Canadian Technical Association and the Canadian Woodlands Section held in Montreal last week

Paul L. Vernon of 22 Rusk street, New York, is scheduled to deliver his lecture "A Day Off in Japan" at the Brooklyn Museum Auditorium, Eastern Parkway, on Saturday afternoon, February 10 at 3:30. Anyone interested is welcome. This lecture was delivered before the Brooklyn Institute of the Academy of Music in December

R. S. Kellogg, secretary of the News Print Service Bureau, of 342 Madison avenue, New York, has returned to the city following his trip to Montreal where he was re-elected secretary-treasurer of the Bureau and spoke before the annual meeting held last week. Mr. Kellogg also attended the convention of the Canadian Technical Association

Blake & Decker, Inc., of 50 East Eleventh street, New York, have been appointed Metropolitan distributors for the announcements, wedding and visiting cards manufactured by the White & Wyckoff Manufacturing Company, of Holyoke, Mass. F. S. Warner, formerly of the Paper Mills Company, of Chicago, Ill., will have charge of the new department

J. F. A. Hussey, vice president of the Salesmen's Association for the New England District, was in New York Monday of this week. Mr. Hussey held a conference with Dr. Hugh P. Baker,

executive secretary of the American Paper and Pulp Association on the program for the annual convention of the Salesmen's Association to be held in April

A petition in bankruptcy was filed last week against the Norman Paper and Twine Company, Inc., of 371 Seventh avenue, New York, the liabilities being estimated at \$10,000 and assets at \$2,000. The creditors petitioning were Sylvia Miller, \$225, Marie Konkel, \$200, and Ethel Eardley, \$143. Bertha Reinbaugh was appointed receiver under \$1,000 bond by Judge Knox

L. Glickman & Co., manufacturers of paper bags and dishes and jobbers in paper and twine heretofore located at 133-35 Green street, New York, announce that they are now located in their new quarters at 505-15 Johnson avenue, Brooklyn, where they are equipped with 40,000 feet of floor space with railroad siding adjoining their building. Their new telephone numbers are Stugs 4261-62

James P. Heffernan Paper Company, Inc., paper exporter, of 25 Walter street, New York, announces the appointment of Frank W. Poyntz as Export Sales Manager. Mr. Poyntz had more than seven years experience as manager of several departments for Parsons & Whittemore, Inc., and has traveled in a selling capacity through various Latin-American countries as well as France and Spain. He will devote a large portion of his time to the development of the fine paper business of the company not only in Spanish-speaking countries but in other parts of the world.

Crystal Waxed Paper Co. Incorporates

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 29, 1923.—The Crystal Waxed Paper Company of Middletown has been incorporated, the papers having just been issued. This is the company which recently was formed to effect a merger between the Shelby Wax Paper Company of Shelby, Ohio, and the waxing department of the Crystal Tissue Company of Amanda, near Middletown.

The new company is capitalized at \$100,000, 7 per cent preferred stock and has 3,000 shares of common stock of no par value, the value being set nominally at \$5 per share.

Z. W. Runk, C. O. Sellant and W. H. Muchmore are the incorporators of the Crystal Waxed Paper Company.

The new concern purchased the entire equipment of the old Shelby Company and the waxing equipment of the mills at Amanda.

It is understood the new plant soon will be in operation under the management of W. H. Muchmore who, with Mr. Sellen has come to the Miami Valley from Shelby.

It is stated that all of the products of the new 140 inch tissue machine soon to be installed in the mills of the Crystal Tissue Company will be utilized by the Crystal Waxing Company.

Largest U S Book Machine Commemorated

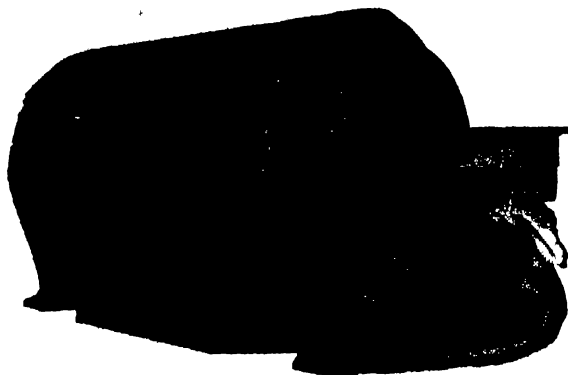
Celebrating the installation of the largest machine in the United States producing high grade book paper, the P. H. Glatfelter Company of Spring Grove, Pa., distributed this week to the trade a souvenir edition of its house organ, the "Papermakers' Barker." This attractively compiled and handsomely bound pamphlet contains more than fifty pages, fully describing the new 170-inch machine and listing the various concerns involved in its manufacture and installation.

The booklet is profusely illustrated, containing views of the Spring Grove Paper Mills from their inception in 1874 to aeroplane photos of the P. H. Glatfelter plant as it stands today. The publication as a whole is a highly creditable achievement.

"IMPCO" TAILING SCREENER

FOR SCREENING GROUND WOOD TAILINGS

Very Low
Power
and
Upkeep Expense



Delivers
Rejections Free
from Good
Stock

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Editorial

Vol. LXXVI New York, February 1, 1923 No. 5
FIFTY-FIRST YEAR

The Paper Bids

As may be observed from the report printed elsewhere in this issue only a comparatively small number of paper concerns were represented in the bids to furnish Government paper which were opened by the Joint Congressional Committee on Printing at Washington on Monday of this week. This is perhaps accounted for by the action of the committee in the past year or two in numerously rejecting bids at prices which seemed obviously fair and reasonable to paper men.

On the whole however, considerable interest attaches to the bidding as it shows as usual the price trend of the paper market. That this has been considerably upward since the most recent bids were opened in July and January of last year may be seen from a comparison of the prices on some of the more representative items which follow.

In the present bidding the lowest bid on white news print was made by the Maurice O'Meara Company at 403 cents for six months. In the bidding six months ago Dobler & Mudge were low on this item at 43 cents for six months but all bids were rejected. In the bidding a year ago this item was awarded to Dobler & Mudge at 379 cents.

The lowest bidder in the current bidding on No. 1 machine finish printing was the International Paper Company at 737 cents for six months. This item six months ago went to Dobler & Mudge at 647 cents for six months and a year ago to the International Paper Company at 663 cents.

On rag machine finished printing 25 x 38-40, cut 32 x 48 flat, the Old Dominion Paper Company in the current bids was low at 999 cents for six months. No bids at all were submitted on this variety six months ago and the award went to the Brvant Paper Company at 754 cents a year ago.

On sized and supercalendered printing 25 x 38-45 cut 24 x 32 and 32 x 48 the Brvant Paper Company bid low in the current bidding at 769 cents. All bids on this variety were rejected six months ago and the Kalama7oo Paper Company was the successful bidder a year ago at 658 cents for six months.

On half tone printing paper 25 x 38-70 cut 24 x 38 and 38 x 48, the International Paper Company bid low in the current bidding at 747 cents for six months. Dobler & Mudge bid low on this item six months ago at 622 cents, but all the bids were rejected. This item was awarded to Dobler & Mudge a year ago at 597 cents.

On single coated both side book 25 x 38-70 cut any size flat, maximum width 42 inches, the Allied Paper Mills were low in the current bids at 909 cents for six months. This item was bid low six months ago by Dobler & Mudge at 849 cents but all bids were rejected. The successful bidders a year ago were the Allied Paper Mills at 809 cents for six months.

On white writing paper No. 20, 17 x 28 and 21 x 33, the low bidder in the current bidding was the R. P. Andrews Paper Company

at 739 cents for six months and this item was awarded to the same concern six months ago at 679 cents. This item was awarded to the Kalama7oo Paper Company at 684 cents a year ago.

On stationery bond the Aetna Paper Company bid low in the present bidding at 1072 cents for both the six month and the yearly period and the same concern was awarded the contract six months ago at 1116 cents. This concern bid low a year ago at 1031 cents for both six months and a year, but all bids were rejected.

On commercial ledger the Aetna Paper Company in the current bidding was low at 1382 cents for both six months and a year. Six months ago this item was awarded to Dobler & Mudge at 142 cents and the Aetna Paper Company was the successful bidder a year ago at 1431 cents for both six months and a year.

On smooth colored cover paper the R. P. Andrews Paper Company was the low bidder in the current bids at 843 cents for six months. This item was awarded to the same concern six months ago at 848 cents. The low bidders a year ago were Knowlton Bros. at 889 cents, but all bids were rejected.

On kraft wrapping paper the low bidder in the current bidding was the Whitaker Paper Company at 711 cents. This item was awarded six months ago to the R. P. Andrews Paper Company at 66 cents. Six months ago the low bidders were Dobler & Mudge at 73 cents but all bids were rejected.

On manila board in the current bidding the Maurice O'Meara Company was the low bidder at 525 cents. This item was awarded to Samuel Alcorn six months ago at 495 cents and to the same concern a year ago at 475 cents.

Seeking Paper Knowledge

Eighteen hundred years ago nearly fourteen centuries before America had been discovered, a certain Chinese sorcerer named Ts'ai Lun knelt before his ruler, the mighty Ho-Ti, Emperor of China. With Oriental pomp two court-attendants received the offering of the wizard and carried it up to the throne of the All Highest for his approval. Nor was the offering one of gold or rare spices or precious stones, such as China's monarch was accustomed to receive. An odd-looking gift it was, to be sure, the courtiers must have thought. But to Ho-Ti it was more valuable even than rubies or silks or jade. It was something that would bring fame and glory to the great Empire of the East long after his reign had faded into obscurity. As Ho-Ti looked upon the offering and fondled it with his hands there came to him a vision of the significance of this gift and great honor was conferred upon the humble Ts'ai-Lun.

The sorcerer's offering was a sheet of paper—the first sheet of paper in the world's history. The far-seeing old emperor bade the inventor to exert all the forces of his magic to the concocting of more of the mysterious substance and the resources of the Empire were placed at Ts'ai-Lun's disposal. Thus did paper first come to be known in China early in the second century, and not long after the beginning of the Christian era.

Even then Ts'ai-Lun jealously kept to himself the miracle by which this mysterious substance, paper, was made. Other magicians there were who envied the renown he had attained in the eyes of the great Ho-Ti and who cooked all manner of magic herbs to

gether and invoked the aid of all the demons of the Orient in a vain attempt to do what Ts'ai-Lun had done. Not until the latter was on the brink of death did he impart the secret of his wizardry—and then, to his only son, pledging him to guard it with his life.

For centuries China's paper industry was enshrouded in this cloak of necromancy. Its development was hereditary. Hundreds of years passed during which time paper was a rare and expensive luxury, enjoyed only by the Powers That Be. Meanwhile China's millions waited—waited for lack of knowledge—waited because in the first place, there was no way of disseminating the information to others who would have been interested and besides it would have been in violation of the traditions set by their forefathers to have done so.

Last week Joseph Bailie, Dean of the College of Forestry and Agriculture, of the University of Nanking, Nanking, China, was visiting prominent paper executives of the United States. He has come here from China to place in American paper mills intelligent young Chinamen in order that they may absorb the most modern methods of papermaking to be found in the world today and carry their knowledge back with them to the manufacturers of the Orient. It is a tribute to the United States and to its paper industry. When the East with all of its centuries of wisdom, and proud aloofness deigns to cast aside the conjury and crystal gazing which have cloaked its history for centuries, and turn to a relatively "new hatched" country such as our own for knowledge, then, surely we have reason to feel proud of our achievements.

But this pride will not be of the kind that Ts'ai-Lun bore toward the industry he founded for his Emperor. Americans know that what progress has been made in their paper industry has been a result of co-operation and of working together for a common end. They are not satisfied with the limited knowledge the individual is capable of possessing. They realize that the only progress lies in team work—in intelligent exchange of information and methods. In their trade journals and in their various associations they are afforded a common meeting ground—a forum where trial by error experiments may be brought to light for the benefit of all.

American paper manufacturers will be only too glad to co-operate with Dr. Bailie in the placing of young Chinamen in their mills. What subtle flattery to the technical ingenuity of America's paper men is embodied in such a step on the part of China—a country steeped in wisdom and science that antedates all historical record!

Production of Cellulose in Sweden in 1922

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 31, 1923—Assistant Trade Commissioner Sorensen at Copenhagen reports to the Department of Commerce that Swedish production of cellulose during 1922 is estimated at 745,000 tons, or about 68 per cent of the normal production. The output of sulphate cellulose during this period amounted to approximately 240,000 tons, or 86 per cent of normal capacity of the mills.

Production of mechanical wood pulp last year was at the rate of 96 per cent, reaching approximately 334,000 tons, stocks of wood pulp at the present time are very small.

T. J. Keenan Tells About Paper Exposition

Thomas J. Keenan of New York was requested by Chairman Bryant at the meeting of the Technical Section of the Canadian Pulp and Paper Association at Montreal on Thursday to speak of the progress made in the organization of the Paper Industries Exposition which is to be held at the Grand Central Palace, New York, during paper trade convention week, April 9-14.

Mr. Keenan said he had been originally appointed a member of the Advisory Committee of the Paper Industries Exposition, but on becoming acquainted with the ambitious character of the project, he had decided to give his whole time and attention to the work of arranging for exhibits that would show the extent and importance of the industry in its national aspects. The exposition was receiving the enthusiastic support of leaders in the industry and a well rounded and comprehensive exhibition of paper and paper products was assured. Paper machinery manufacturers were also intensely interested in the exposition, and types of machinery apparatus and equipment would be abundantly displayed. Spaces had already been reserved for paper converters as well as for the larger paper merchants and dealers in mill supplies and raw materials, so that it appeared certain that a complete exposition of paper manufacture in all its branches would be assembled.

Mr. Keenan asked for the interest and co-operation of the members of the Technical Section of the Canadian Pulp and Paper Association and extended an invitation to them to attend, saying that the managers of the exposition would accord the privilege of free admission at all times during the week of the exposition to members of the Canadian Pulp and Paper Association.

He stated that the Technical Association of the Pulp and Paper Industry was expected to hold sessions on one day at the exposition and at the close of the sitting the members would be conducted on a tour of the exhibits. The same course would likely be followed by others of the service associations of the American Paper and Pulp Association and the National Paper Trade Association which would be in session at their annual convention during the entire week of the exposition, Monday, April 9 to Saturday, April 14.

The exposition was being conducted, he said, in close co-operation with the officers of the national associations, many of whom were serving on its Advisory Committee.

In closing he thanked the chairman and officers of the Technical Section for the interest in the exposition which they had manifested by calling on him to address the meeting and again extended a hearty invitation for the section to be represented at some of the functions to be held in connection with the exposition.

During his stay in Montreal, Mr. Keenan has talked with a large number of manufacturers and the representatives of educational institutions and has received many assurances of support and co-operation.

Revised Classification of Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 31, 1923. The revised classification and tentative definitions of some two hundred kinds of types of paper have been submitted to a large number of organizations and individuals who are co-operating with the Paper Division of the Bureau of Standards in this work for criticism. This classification is so arranged that each type of paper may be given a code number and thus permit of mechanical devices for tabulating statistics. Some of the definitions have already been changed to meet the suggestions which have been received but it is hoped that additional criticisms will be received. This work is part of the progress on standardization of paper and it is hoped that definitions of terms will assist in eliminating misunderstandings in commercial transactions with paper. Some eight hundred supplementary definitions are also being prepared.

'PRODUCTION OF WOOD PULP' FOR THE MONTH OF DECEMBER

According to Figures Just Issued by the Federal Trade Commission at Washington the Mill Stocks at the End of the Month of Ground Wood Equaled Fourteen Days Average Output, of News Grade Sulphite and Bleached Sulphite Eight Days Average Output, of Easy Bleaching Sulphite Six Days' Average Output and of Mitscherlich Sulphite Five Days' Average Output

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C. January 31, 1923. In connection with the Federal Trade Commission's statistics of the paper industry a summary of the monthly reports from manufacturers of wood pulp and other kinds of pulp used in paper making is submitted herewith for December 1922. The table shows the kind of pulp the stocks production pulp used and shipments for the month. The pulp shipped during each month represents only pulp shipped to a concern different from the one producing it. Loss of production is shown by giving the idle time reported by all companies for each kind of pulp.

Pulp Production

The following is a tabulation of the production pulp used by the company producing it, shipments to outside concerns and stocks of finished pulp in tons of 2,000 pounds on an air dry basis for December 1922 compared with December 1921 for the reporting mills. The average production is based upon the reports covering the years 1917 to 1921 inclusive and the average stocks are based upon the stocks carried for the years 1919, 1920 and 1921.

	Number of mills	On hand first of month	Produced during month	Used during month	Shipped during month	On hand end of month
Ground Wood Pulp		Net tons	Net tons	Net tons	Net tons	Net tons
December 1922	153	80,212	106,301	111,747	9,378	66,593
December 1921	163	115,603	131,601	104,150	9,937	123,080
December 1920	163	108,200	140,718	18,034	9,707	129,626
December 1919	170	130,100	133,000	110,616	1,547	179,961
Average			111,100			147,675
Sulphite News Grade						
December 1922	50	12,000	10,000	8,000	4,425	18,583
December 1921	64	14,000	10,000	53,709	6,543	21,240
December 1920	64	17,000	60,000	2,074	8,733	17,984
December 1919	66	21,000	66,782	983	10,575	20,373
Average			60,125			20,655
Sulphite Bleached						
December 1922	10	2,200	4,901	8,649	11,472	12,005
December 1921	10	5,500	34,154	12,872	12,684	748
December 1920	10	6,000	11,911	2,818	16,785	6,601
December 1919	10	6,000	47,000	8,000	24,000	6,810
Average			60,000			9,507

	Number of mills	On hand first of month	Produced during month	Used during month	Shipped during month	On hand end of month
Sulphite, Easy Bleaching		Net tons	Net tons	Net tons	Net tons	Net tons
December 1922	7	1,535	3,822	3,756	46	1,555
December 1921	8	841	4,902	4,110	85	868
December 1920	6	1,192	4,369	3,215	1,212	1,134
December 1919	8	1,577	5,126	3,539	1,850	1,314
Average			6,000			1,346
Sulphite Mitscherlich						
December 1922	7	1,518	5,696	2,396	3,512	1,308
December 1921	6	1,065	5,961	3,824	2,074	1,128
December 1920	7	1,627	6,549	3,643	1,765	2,768
December 1919	7	1,974	6,670	4,163	2,672	1,809
Average			6,125			1,831
Sulphite Pulp						
December 1922	25	8,205	21,808	15,165	7,204	4,644
December 1921	21	7,979	15,331	13,018	2,835	7,657
December 1920	20	7,075	9,804	8,071	958	7,850
December 1919	22	7,771	15,356	9,408	6,072	7,647
Average			13,050			6,499
Soda Pulp						
December 1922	27	6,995	37,864	22,175	14,883	7,701
December 1921	27	6,306	29,825	14,185	12,922	9,024
December 1920	26	6,918	30,179	15,053	12,557	6,507
December 1919	28	7,248	31,232	17,198	15,610	5,672
Average			29,800			6,931
Other Than Wood Pulp						
December 1922	7	585	1,001	867	128	711
December 1921	5	208	629	613	46	178
December 1920	4	192	640	713	0	119
December 1919	6	280	812	747	105	240
Average			800			154
Total for all grades						
December 1922		124,843	277,671	237,567	51,046	113,301
December 1921		184,555	272,935	213,571	47,896	169,923
December 1920		136,968	302,527	225,131	51,715	172,649
December 1919		188,861	306,617	217,537	74,118	183,826
Average			270,850			194,026

Total stocks of all grades of pulp in the mills on December 31 amounted to 113,301 tons. Mill stocks of ground wood pulp, sulphite news grade Mitscherlich and sulphite pulp decreased during the month. Stocks of all the other grades increased.

Ratio of Stocks to Average Production

Comparing the stocks on hand at the domestic pulp mills at the end of the month with their average daily production based on the reports covering the years 1917-1921 inclusive the figures show that:

Ground wood pulp stocks equal 14 days' average output
News grade sulphite mill stocks equal 8 days' average output
Bleached sulphite mill stocks equal 8 days' average output
Easy bleaching sulphite mill stocks equal 6 days' average output
Mitscherlich sulphite mill stocks equal 5 days' average output
Sulphite mill stocks equal 9 days' average output
Soda pulp mill stocks equal 6 days' average output

(Continued on page 50)

MONTH OF DECEMBER 1922 (WITH DECEMBER 1921 FOR COMPARISON)

	Lack of Orders		Idle		Other Reasons		Total	
Grade	1922	1921	1922	1921	1922	1921	1922	1921
Ground Wood Pulp								
Number of machines	14	40	0	40	581	705	721	797
Total hours idle	7,708	13,180	0	16,754	145,600	156,419	160,674	186,262
Sulphite News Grade								
Number of digesters	3	17	0	27	10	64	38	108
Total hours idle	428	4,706	0	1,570	3,853	3,644	4,629	9,940
Sulphite Bleached								
Number of digesters	26	60	0	80	58	34	114	124
Total hours idle	3,008	13,105	1,907	91	2,300	2,952	6,765	16,972
Sulphite Easy Bleaching								
Number of digesters	6	7	0	0	2	7	15	14
Total hours idle	706	2,136	0	0	1,140	1,013	1,896	3,149
Sulphite Mitscherlich								
Number of digesters	0	0	17	17	10	9	27	26
Total hours idle	0	0	7	959	230	1,728	467	2,687
Sulphite Pulp								
Number of digesters	1	5	0	22	28	24	32	51
Total hours idle	202	1,448	150	1,446	1,230	1,190	1,891	9,084
Soda Pulp								
Number of digesters	0	90	8	9	21	78	29	177
Total hours idle	0	18,480	370	24	4,550	5,985	4,920	24,489
Other Grades								
Number of digesters	0	9	0	2	6	2	6	13
Total hours idle	0	2,196	0	128	1,560	648	1,560	2,972
Total number of machines	50	237	200	350	732	923	982	1,510
Total hours idle	12,372	55,330	10,007	21,746	160,423	173,479	182,802	250,555

*Includes 142,835 hours due to water power conditions

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Canadian Subsidiary of Charles Walmsley Co

[BY OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 29, 1923—A company has been formed here to take over all the Canadian business of Charles Walmsley & Co., of Bury, England, the well-known manufacturers of paper making machinery and other engineering work. It will be known as Charles Walmsley & Co., Canada, Limited and the directors include Sir William Price, of Price Bros & Co., Quebec, F. H. Anson, of the Abitibi Power and Paper Company, Hon. C. G. Foster, and H. B. Walker. The plant of the Armstrong Whitworth Company of Canada situated at Longueuil, a suburb of Montreal has been taken over. The company will be entirely managed by the Canadian board and it has acquired all the Canadian rights of the parent company and will manufacture all the machinery here for Canadian business. The Walmsley Company has for years been doing a big business with Canadian pulp and paper mills, and has manufactured the biggest paper machines at present in use in this country including the 232 inch machine in the Abitibi Company's mill. At present it is making paper machines for the Belgo Paper Company, the Bathurst Lumber Mills, Price Bros & Co., and the Donnan Pulp and Paper Company.

To Build New Paper Mill on Racquette River

POTSDAM, N. Y., January 30, 1923—A new paper mill manufacturing light weight papers will be built during the coming summer at a point on the Racquette river about two miles from Norwood below Potsdam directly opposite the stream from the present Sisson lumber mills at Sissonville. It has been learned authoritatively here.

Contracts for the erection of the new mill have already been let. It is understood, and work will be started in the immediate future. Thus far the name of only one promoter of the enterprise has been disclosed, Hollis Martin, a son of the late O. E. Martin who with the late Charles H. Remington was formerly active in the paper business in this section building the mills at Norfolk and Raymondville now owned by the Hunt Paper Corporation.

The capacity of the new paper mill will be about ten or twelve tons a day, it is said, and power for the operations will be taken from the Racquette at a site owned by those interested in the project.

A ground wood mill is already built near the site of the proposed mill with a 25 ton capacity. The production of this mill has hitherto been sold to tissue paper mills.

Albert F. Hagar Leaves Estate to Sister

DAYTON, Ohio, January 29, 1923—Miss Sarah B. Hagar, who is the owner of the Hagar Strawboard and Paper Company's plant at Cedarville and who resides in Xenia, has received word that she has fallen heir to the estate of her late brother, Albert Francis Hagar, New York attorney, who died recently.

Miss Hagar will receive \$180,000 under the terms of the will and she also falls heir to a similar amount, under the will which was bequeathed to another sister, Miss Mary Hagar, who died last July at the Hagar residence in Xenia.

Miss Sarah Hagar was quite wealthy in her own name before the bequests of \$300,000 were received. She is conducting the Cedarville mills in a modern way a number of improvements made by her late brother just before he died, having been greatly to the benefit of the company.

Thomas Beckett Talks to Employees

[FROM OUR REGULAR CORRESPONDENT]

HAMILTON, Ohio, January 29, 1923—Employees of the Beckett Paper Company, enjoyed their third annual banquet and entertainment the past week at the Y. M. C. A. More than 250 were in attendance. The dinner was excellent and was followed by a

heart-to-heart talk by Thomas Beckett president of the company who gave a history of the 75-year-old manufactory. He assured the men and women that their welfare was the very foundation of the company's success.

Mr. Beckett explained how the company started in a small way in 1845 and how, year by year, it grew larger and larger until today it occupies an important place in the manufacturing establishments of Ohio.

The Association's annual report was submitted by Frank Becker, treasurer. The election of directors of the Association resulted as follows: Thomas Beckett, Quincy Adams, Homer Latimer, Frank Glumand, Frank Becker.

Buys Essex Pad & Paper Co

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., January 22, 1923—James F. Cleary, Jr., has purchased the interests of all the stockholders in the Essex Pad and Paper Company. The consideration was not made public. The shop, which has been closed since last July, will soon resume operations. Pads and tablets are manufactured by this company. Alexander Codrre is superintendent of the concern, which position he has held for the past 18 years. It is not unlikely that the name may be changed to the Essex Pad and Tablet Company.

Advance Bag Co. Sales Managers Meet

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 29, 1923—District sales managers of the Advance Bag Company, Middletown, assembled in the Paper City last week in annual sales convention at the local office.

Eight districts in the United States were represented at the meeting. The visitors were registered at the Hotel Manchester, Middletown, newest hostelry which is rapidly becoming a center for paper mill men and their friends.

Pettebone-Cataract Co. Repairing Fire Damage

[FROM OUR REGULAR CORRESPONDENT]

NEWARK, N. Y., January 30, 1923—While the fire which occurred at the plant of the Pettebone-Cataract Paper Company recently caused no great financial loss, it did affect the power plant seriously and caused the closing down of the entire plant. Reconstruction work is progressing as rapidly as possible, and while it is not possible to say how long the shutdown will continue, it is hoped that it will not be many weeks longer.

DECLINING WOOD PULP PRODUCTION

(Continued from page 48)

Mill stocks of 'other than wood pulp' equal 22 days' average output.

Total mill stocks of all grades equal 10 days' average output.

Loss of Production

The idle machine time of grinders and digesters reported to the Commission for the month of December, 1922, is shown in the attached tabulation. The number of grinders and digesters include only those for which idle time was reported during the month. The total number of machines may include duplications because the report may count the same machine twice if idle for different reasons during the different parts of the month. The reasons tabulated for lost time are "lack of orders" and "repairs." "Other reasons" include water conditions, etc. The time lost in December, 1921, is shown by grades and reasons, for purposes of comparison. Neither the number of machines nor hours lost include idle machines and the time lost in 13 mills not in operation during the month.



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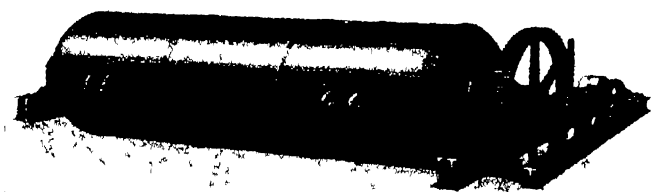
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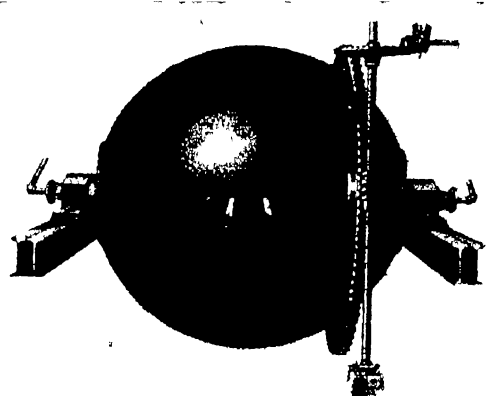
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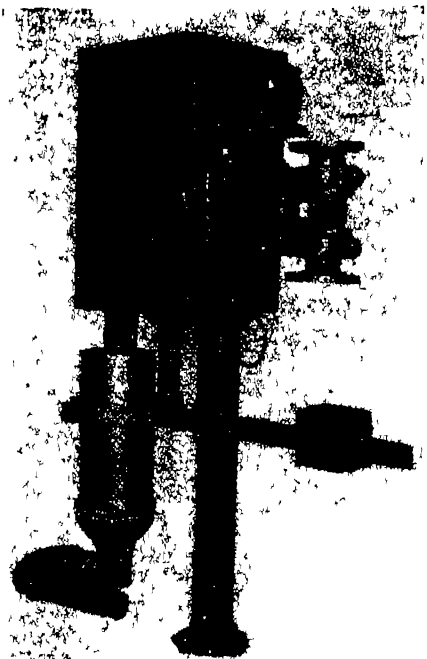
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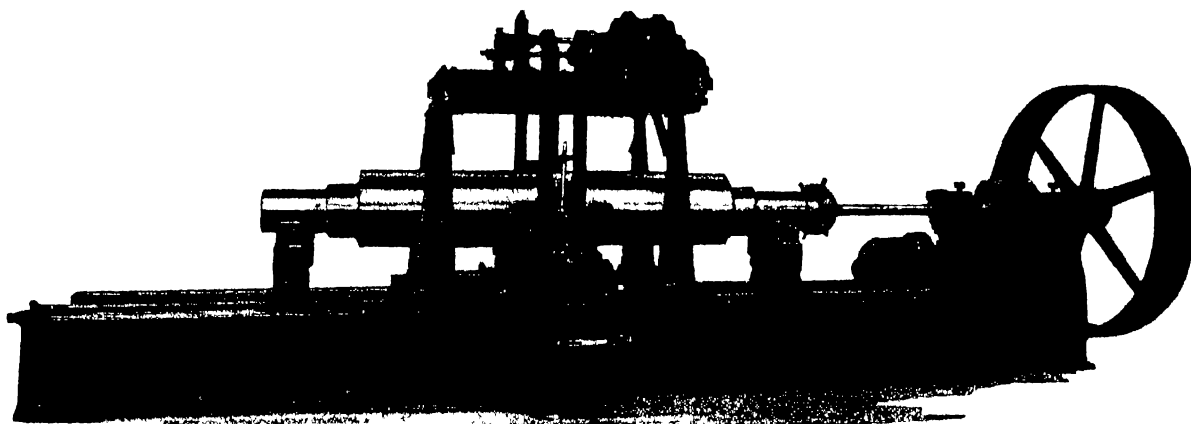
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Conducted by W.G. MacNAUGHTON, Secretary

THE PROPERTIES OF WOOD IN PAPER MAKING*

The Effect of Physical and Chemical Properties of the Wood on Economy and Quality, Particularly in the Sulphite Process

By BJARNE JOHNSEN AND H. N. LEE

The suitability of any kind of wood for papermaking is determined by its physical and chemical characteristics. Very resinous woods, like the pines are not suitable for the sulphite process, but make an excellent raw material for the sulphate or kraft process. Soda pulp from poplar is used in certain papers such as book papers on account of the short bulky fiber but cannot be used for papers where strength is required. It is not the intention of this paper to discuss the value of the various species of wood for all different pulping processes and for the different grades of paper. This discussion will deal chiefly with the most important pulpwoods, spruce and balsam, and their use in the sulphite process which is by far the most important chemical process. However much of the data given may be equally well applied to other woods and the other processes.

In discussing the properties of wood for papermaking there are two chief considerations, economy and quality. Wood is ordinarily purchased on the cord basis and the consumption of wood is recorded on the cord basis. It is customary to express the yield of pulp in terms of cords used per ton of pulp but while the enormous variations in this figure in different mills may to a great extent be accounted for in the different methods used in the manufacturing process, it is not possible to so explain the great variations which are experienced in any one mill. These variations can

(1161 cu. ft.) (2) If the logs differ in diameter the solid content will be greater and will increase as the ratio of the largest diameter to the smallest increases. However in actual measurements he found no cords contained over 80 per cent (1024 cu. ft.) solid wood.

Graves (2) and Winslow and Thiden (3) give the following figures:

	Cubic Feet Per Cord			Winslow and Thiden		
	Over 5 inches diameter at small end	2 1/2 to 5 inches diameter at small end	Mixed	Straight	Crooked	Knotty
10 inch	90.5	83.9	87.2			
4 feet	88.9	82.4	85.7	92	82	74
8 feet	83.8	77.2	80.5	82	75	50

Sterns (4) found the average solid volume per cord of 32 inch wood based on careful volumetric measurement of 34 cords, logs from 4 inch to 16 inch diameter to be before barking 93.97 cu. ft. after barking 83.36 cu. ft.

Our own measurements on two very different kinds of wood one coming from northeastern Quebec and the other from Minnesota based on 32 cords of each class of wood show the following:

Average		Maximum		Minimum	
Que	Minn	Que	Minn	Que	Minn
67	115	102	156	36	86
7.31	5.67	10.56	6.50	7.96	4.95
88.58	85.68	99.52	91.72	69.79	77.82

The Quebec wood was peeled, the Minnesota wood not peeled, therefore the actual wood in the latter was about 12.5 per cent less or an average of about 75 cu. ft. per cord. The greatest variation in the amount of solid wood was due to poor packing which in turn was frequently due to crooked or poorly trimmed logs. The figures appear to show conclusively that wood of larger average diameter, which means mixture of small medium and large diameters, results in more actual solid wood per cord than wood of small average diameter.

In most cases investigators have found that the larger the average diameter the greater the solid content, but Sterns found just the

Number of logs per cord
Average diameter inches, per cord
Cubic feet solid material per cord

be explained only when the actual value of the cord based on the physical and chemical properties of the wood are known.

Measurement of Cord Wood

Considering first the physical properties, it is known that a very large variation can exist in the amount of solid wood in the cord. According to Sterns (1), the theoretical solid content of the cord is (1) always the same provided the logs are all of the same diameter. In this case the theoretical solid content is 90.69 per cent.

*Read at the annual meeting of the Technical Section of the Canadian Pulp & Paper Association, Montreal, Jan. 24-25, 1923.

reverse. He believes the discrepancy may be explained by the fact that he measured 32 inch wood while the others, in general, measured 4 foot or 8 foot wood. It is certainly true that the effect of crookedness of logs is greater in long logs than in short ones, and it is possible that in very short logs the effect of crookedness might be comparatively small. Moreover, large diameter logs are more likely to be straight than are those of small diameter.

It has been shown in the foregoing that the actual value of a cord of wood for production of pulp or in other words, the solid wood in a cord may be influenced by several factors and may vary very considerably. To secure reliable figures from which to determine yield as well as to handle the purchase of wood in the most efficient manner, it is quite apparent that accurate measurement of the wood is necessary.

Density and Rate of Growth

The value of a given volume of solid wood for pulp is determined by the dry weight of the wood. This is dependent on the density of the wood. This varies not only with the species but also within the same species, according to the conditions of growth.

Our investigations show in balsam as well as in spruce and the same may probably be applied to other coniferous woods, that slow growth wood is more dense than rapid growth wood. The following are figures for logs 6 inches in diameter:

	Kilograms per cu. ft. of green wood when absolutely fresh	Weight cubic foot green wood when absolutely fresh
Quebec spruce	18.5	27.6
	4.5	20.2
Minnesota spruce	17.4	28.0
	5.7	22.4
Quebec balsam	19.7	27.2
	4.3	18.7
Minnesota balsam	10.3	22.6
	6.4	17.8

Moreover, as is shown in the following table by Kress, Wells and Edwards (4), there is considerable variation in the average density of different species of wood:

	Ave. weight of 1 cu. ft. of green wood when dried
Black spruce (<i>Picea mariana</i>)	23
White spruce (<i>Picea canadensis</i>)	24
Balsam fir (<i>Abies balsamea</i>)	21
Hemlock (<i>Tsuga canadensis</i>)	24
Jack pine (<i>Pinus strobus</i>)	24
Aspen (<i>Populus tremuloides</i>)	23

Our own tests show:

	Ave. weight of 1 cu. ft. of green wood when dried	Ave. times per in.
N. E. Quebec spruce	25.2	12.8
S. W. Ontario spruce	25.6	11.5
N. E. Quebec balsam	20.8	9.1
S. W. Ontario balsam	20.4	8.2

From this data it is apparent that spruce has, on the average, 15 to 20 per cent greater density than balsam fir. Here again, as in the case of cord wood measure, are opportunities for large variations in the possible yields from cords of wood composed of more than one species or even composed of the same species of different rates of growths.

Chemical Composition (Cellulose Content)

Another factor which influences the possible yield, even when the foregoing factors are eliminated, is the chemical composition of the wood. The most important characteristic is the cellulose content. The data on this subject from different sources are not al-

ways comparable because the various investigators have not used the same methods in making their determinations. The relative cellulose content of certain kinds of wood, based on a comparatively small number of tests, is given by Johnsen and Hovey (5).

(Cellulose calculated as per cent of oven dry wood):

White spruce	56.48
Black spruce	50.64
Red spruce	52.95
Balsam fir	51.60
Jack pine	49.24
Hemlock	48.70
Aspen	57.25

Even within the same species it has been shown that the cellulose content varies. Johnsen and Hovey (5) found in balsam fir that rapid growth (low density) wood contained 50.35 per cent cellulose, while slow growth (high density) wood contained 52.85 per cent cellulose. Thorbjornson (6) gives the following figures for Swedish spruce determined from different parts of the same log:

Specific Gravity	Per Cent Cellulose
382	53.4
425	57.3
446	58.5

As far as the two most important pulpwoods, spruce and balsam fir, are concerned, it is safe to say that spruce has a slightly higher cellulose content than balsam fir. According to this data the yield which may be expected from a given volume of solid wood will be greater with woods of high density for two reasons: (1) the greater actual weight of wood substance, (2), the somewhat greater cellulose content by weight.

Decay

The influence of the cellulose content on yield is much more marked when wood of different degrees of soundness are compared. It has been found by Acree (7) that the cellulose content may be decreased by as much as 28 per cent. Similar results have been obtained by J. T. Parsons (8) (unpublished data). While in general decay decreases the cellulose content, Parsons found that decay caused by *Trametes pini* resulted in an increase in cellulose content of 15 per cent, with a decrease in lignin of 30 per cent.

Another serious result of decay is a decrease in the density of the wood. Sutermeister (9) found spruce wood which was thoroughly affected by rot but which was still quite hard and firm, weighed less than 18 pounds per cubic foot of dry wood, while sound spruce weighed more than 22 pounds.

Relation to the Manufacturing Process

So many factors which have a bearing upon the value of the cord, particularly with regard to economy have been considered. In the following, the importance which knowledge of these factors and other factors have in the manufacturing process and on the final product will be discussed.

It is obvious that the variations in the solid content of the cord, due to the conditions of piling of wood, dimensions of logs, crookedness and trimming have a very great effect on the cost of production. However, these variations are eliminated as soon as the wood is in form of chips and therefore, do not directly affect the capacity of the mill or the quality of the product.

Knowledge of the density of the wood is of much greater importance because it directly affects the yield and, as a result, the economy in several ways:

- (1) Dense wood gives a greater weight of wood per cord.
- (2) Dense wood gives a slightly higher cellulose content per unit of weight.
- (3) Dense wood, consequently, increases the digester capacity, which allows (a) a longer cooking time at lower temperature, which results in (b) increased yield and a better quality of product.

These points are illustrated by the results obtained by experimental cooks on a semi-commercial scale, as follows

	Balsam	Spruce
Wt of absolutely dry chips from cord of peeled wood, pounds	2,036	2,580
Wt of chips in digester, absolutely dry, pounds	268	323
Bleach consumption, per cent	17.2	15.5
Yield of bleached pulp, per cent dry wood used	42.79	43.65
Yield bleached pulp for equal volume digester charges, pounds	115	141
Absolutely dry pulp per cord peeled wood, pounds	871	1,126
Actual mill data, using two different classes of wood (average figures per month), show the following		

	Month A	Month B
Wt cu ft wet chips when absolutely dried, pounds	815	864
Absolutely dry pulp, per cu ft digester space pounds	3.56	3.91
Yield absolutely dry pulp per cent of dry wood	43.7	45.2
Screenings (dry) per cent of total pulp	3.00	2.03
Cooking time, hours	12	12.5
Bleach consumption per cent	17.7	12.0
Slowness of unbleached pulp	31.0	27.1
Strength of unbleached pulp	92	93

These experimental and mill data show how the density of the wood affects the value of a cord and the capacity of the cooking equipment

Another factor which affects the digester capacity is the moisture content of the chips. The higher the moisture content of the chips, the heavier the chips will be, and consequently the better will the chips pack in the digester. Thorbjornson (6) has shown that by using chips with an average moisture content of about 20 per cent in place of chips, with a moisture content of about 40 per cent the capacity of the digester is reduced 95 per cent.

It has already been stated that the variation in cellulose content with sound wood is not great, but when rotten wood is used the cellulose content becomes a very important factor. The yield by weight, based on a number of experimental cooks, with the soda process, is shown by Sutermeister (10) to be about 30 per cent for rotten poplar wood, as compared with about 41 per cent for sound poplar. For birch an even greater reduction in yield was found. Sutermeister (9) using the sulphite process with spruce wood shows that the yield by weight is higher with rotten wood than with sound wood, but his conclusions do not seem entirely justified when it is considered that the two resulting pulps were not cooked down to anywhere near the same degree of purity, the sound wood yielding a pulp with only 0.6 per cent screenings and requiring only 17 per cent bleach, while the pulp resulting from the rotten wood had 6.6 per cent screenings and required over 30 per cent bleach. There is no reason to believe that decayed wood should give a higher yield by weight than sound wood, except in cases where the fungus has caused an increase in the cellulose content, as referred to in the case of *Trametes pini* Brot., mentioned previously. This shows how necessary it is in investigations of this kind to specify the kind of fungus which has caused the decay of the wood, and also to compare resulting pulps on the basis of the same degree of purity. All of our experimental and mill data have shown a decided decrease in yield by weight when rotten wood is used. Also Bates (11) found a reduction in yield by weight in large scale experiments.

Large mechanical losses will occur if wood is decayed. Kress (12) gives the following figures for loss in chipping:

	% Loss in Screening ¾" Chips
Nearly sound white spruce	5.62
Infected white spruce	13.22
Infected white spruce..	15.60
Badly rotted white spruce	17.02

If wood is decayed, and especially if it is saprotten, a considerable loss also occurs in barking.

The effect of decayed wood upon the quality of the pulp is not clearly evident in Sutermeister's and Bates' reports. According to Bates (11) there is no reduction in the strength of the pulp, but his tests were made on unbeaten pulp, and the difference would hardly show up at this stage, particularly when the wood is only partially decayed. Sutermeister (9) found a decided decrease in strength of pulp in the case of the rotten wood cooked by the sulphite process. With the soda process he found an increase in the strength of pulp from partly decayed birch wood, after beating in pebble mill while he found it impossible to make sheets of beaten soda pulp obtained from very rotten wood. Our own tests show that decayed wood has a decided influence on the beating quality, as well as on the strength of the resulting pulp. Pulp obtained from rotten wood hydrates more rapidly when beaten and with the hydration the strength increases. However, the maximum strength of the pulp is reached at an earlier stage in the beating process, after which point the strength decreases rapidly.

Such has been found to be the case, not only in experimental tests but also in ordinary mill experience. Monthly figures from mill operation show that when a large percentage of wood was used which had been stored for two or three years, and therefore was more or less affected by fungus, the strength of the pulp was considerably lower and the slowness considerably higher than when comparatively new, sound wood which came from the same locality was used. This was the case in spite of the fact that the cooking process was adjusted so as to protect the fiber of the more or less decayed wood as much as possible.

The deleterious effect of decayed wood used in the ground wood process has been thoroughly investigated and described by Kress, Humphrey and Richards (13) and Bates (14).

Seasoning

With a raw material which may be stored for a long period before it is used in the manufacturing process, it is of interest to know what effect seasoning has upon its value. It is evident that if wood is stored so that it will deteriorate from decay, its value will gradually decrease. If, however, wood is stored under proper conditions, unfavorable for the growth of fungi and so that the wood may dry out its value for pulp will increase. As Schwalbe (15) has stated green wood because it is less resistant to the cooking process gives a lower yield than seasoned wood, but he has found it possible to materially increase the yield from green wood by giving it a milder treatment. It has also been found in mill operation that seasoned wood gives a higher yield and a stronger fiber than green wood. During the period of storage the moisture content of the wood decreases, which is an advantage, since the moisture in the chips results in a direct dilution of the cooking liquor. However if the wood is too dry the penetration of the acid is much slower and more time is required to bring the digester up to the desired temperature and pressure, necessitating either a longer total cooking time or a higher temperature. Schwalbe (15) found that the penetration period of very dry wood could be materially decreased by pretreating the chips with steam or with waste liquor.

Another objection to the use of green wood is the difficulty which is experienced in the manufacturing process due to pitch. It is generally known that the troublesome pitch-forming substances in the wood decrease during storage.

In the diagram on the following page are shown the principal factors which influence the consumption of wood per ton of pulp or the yield of pulp per cord. The most important of these factors, density and soundness, are also the factors which influence the quality the most. In most cases the low density wood and the infected wood are cooked in mixture with sound wood of high density and the cooking process is adjusted to the sound wood. All the undesirable effects of low density wood and decayed wood are therefore experienced, low yield, low strength, and high slowness. If, however, the wood

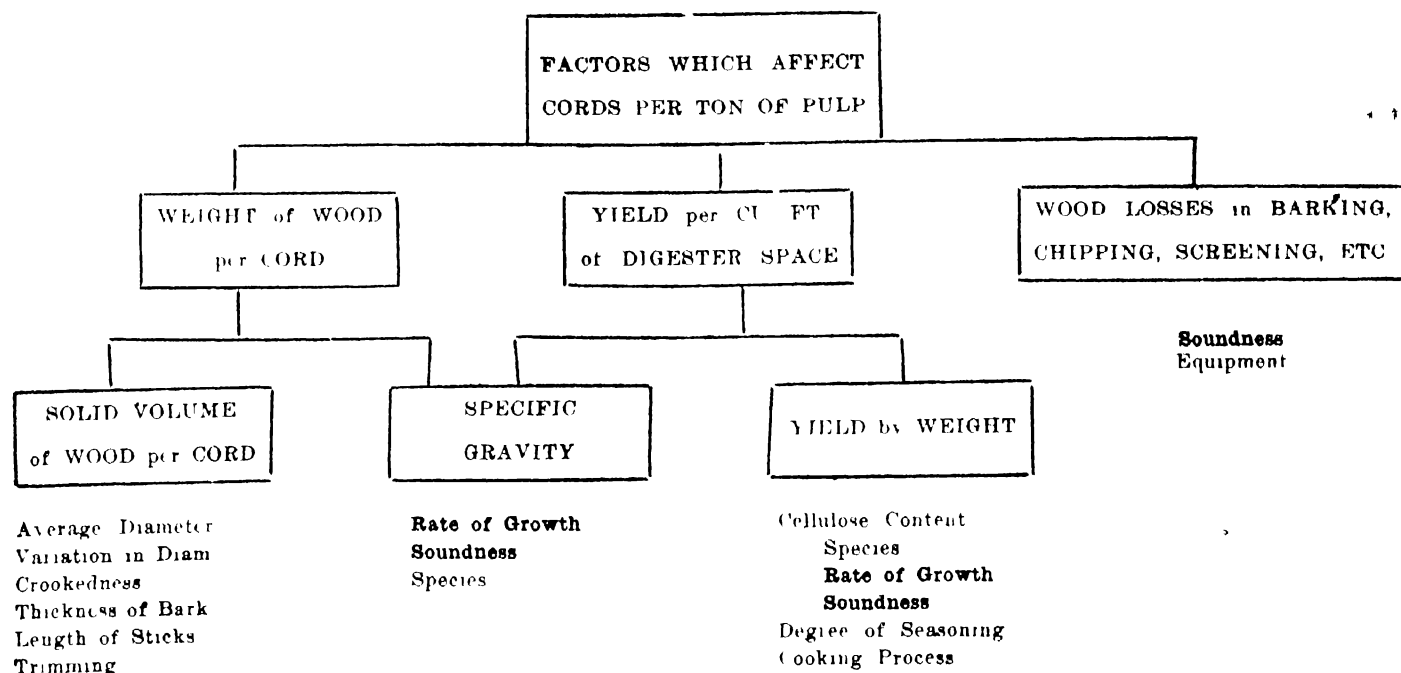
could be sorted according to its qualities, soundness density, seasoning, etc. it would be possible to adjust the cooking process to some extent for the various grades. In order to maintain the production of the mill with low density wood and with decayed wood, it is necessary to shorten the cooking time by using a higher temperature. But especially with this kind of wood, high temperatures should be avoided.

It is in many cases possible to do so by shortening the penetration period of the cooking process because wood of low density

and testing wood which will be of great value in the intelligent purchase and handling of wood and which will explain variations in yield and quality that, up to the present time, have not been fully accounted for.

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and decayed wood are more rapidly penetrated by the acid. A few experiments were made in order to determine how the penetration is affected by these factors. The results which were obtained by placing discs of wood in a small digester with cooking acid of 6.18 per cent total SO_2 and 1.03 per cent combined SO_2 and bringing the temperature gradually up to 100 degrees C. in 2½ hours, keeping the temperature at this point for 1 hour, give an indication of the comparative penetrability.

Penetration Ratio Based on Slow Growth Spruce Equal to 100

	Rings per Inch	Wt. Pct. Cu. Ft.	Penetration Ratio
Slow spruce	28	28.6	100
Rapid spruce	9	23.2	180
Slow balsam	38	22.2	215
Rapid balsam	7	18.6	350
Spruce partly decayed <i>Leptodes separata</i>		22.0	900
Spruce badly decayed <i>Trametes pini</i>		14.0	1500

The question of proper methods of storing pulpwood has often been discussed. It will only be mentioned here that best seasoning conditions allowing a minimum amount of decay are secured when logs are peeled or barked and then stored in such a way that good circulation of air is always maintained throughout the piles.

It has been attempted in this discussion to point out some of the important factors which influence the economy and quality in the production of pulp and paper from wood, with the object of drawing more attention to this most important raw material. It is hoped that the pointing out of the factors which so greatly influence yield and quality will result in the establishment of methods of measur-

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STOCK SAVING—WITH AND WITHOUT SAVE-ALLS*

J. J. TRIMBLE TRIMBLE MACHINE WORKS GLENS FALLS, N. Y.

Among the stock losses of a paper mill is the good fiber which escapes in the so called "white water." In extreme cases this may amount to ten per cent or more, of the total production, and unlike the losses from the barkers or from screenings, it is more or less disguised and hidden and due to its dilution and to the fact that it generally finds its way to the river through covered drains or sewers the extent of the losses from this source is many times unsuspected by the owners.

It is easy to say that valuable raw material should not be wasted and at the same time it would seem unnecessary to urge that steps should be taken to reduce losses to the lowest practical point, but many times it has been difficult to convince the owners that these losses existed or could be reduced at small expense. When approached on this subject an elderly president once told the writer "Young man! I was making paper before you were born! How can you come into my mill and show ME how to save stock?"

Mrs. Brown may admit that Willie Jones is a bad boy but she knows that her Johnny has none of his bad habits. In the same way, any superintendent will admit that there are white water losses in the industry as a whole and he's certain that his friends up the river are wasting tons of good stock—he knows this because it plugs up his filters. He probably doesn't know what comes to the filters of the mills downstream and with deepest sincerity will assure you that nothing of that sort occurs in HIS mill. He knows what to do and besides he is fully equipped with Save-alls—and lulled into false security by the name he does not check up their operation or make a survey of the sewers to find out how much good fiber is going through them into the river. Had these machines been called "Save-Forty-Per-Centers" rather than "Save-ALLS," more attention might be given to the richness of the white water going to them. Then too as is so often the case, Save-alls once installed are more or less forgotten by the mill owners. The logical location for a Save-all from the standpoint of power consumption is in the basement where its supply can come by gravity and the old adage "Out of sight out of mind" applies to Save-alls as well as to persons. While their continuous and efficient operation is necessary for the economical operation of the mill, it is not necessary for the running of the paper machine if it was and if when the belt ran off or the wire facing tore off the paper machine should stop they would receive more careful attention than they generally do.

Save-Alls Are Watch Dogs

We do not wish to criticize Save-alls or their use for they have their place and a very important one in the economical operation of every pulp and paper mill but there are other and better ways of meeting the "white water" problem than by the indiscriminate use of Save-alls. They should be considered as watch-dogs guarding against the loss of stock and when the Save-all is rolling off a thick sheet of pulp instead of regarding this as an indicator of efficient mill operation, it should be taken as a signal that somewhere back in the stock handling system leakage and loss are occurring, for as a rule high efficiency of the Save-alls means low efficiency of the white water and stock handling systems in the mill.

In most mills water costs nothing except for pumping or comes from a gravity supply. Plenty of fresh water is needed, but generally more than a plenty is used. A stock handling system is after all like a pint cup, it holds so much and no more. The tanks are larger than pint cups to be sure but sooner or later they become full and then, for every gallon of fresh water that is added to the system, a gallon of water must leave the system,

and in leaving takes its toll in the form of filler or fibers.

No wire covered Save-all and no settling tank removes all the stock from the water coming to it, especially in the case of the larger news print mills, where the volume of water to be handled is so great and where the pulp supply is largely, if not entirely, in the form of "soft stock" requiring practically no thinning before going to the machine chest.

Keep in Good Repair

One way to attack the problem of reducing the white water losses is to take the mill as you find it, accept the volume and richness of the excess water as a necessary evil, choose a good type of Save-all, and install enough of them to handle the entire flow, but do not stop with the installation. See that they are all kept in repair, that the deckle straps are kept in place, the facings are changed when torn or worn out, and by frequent comparisons of the richness of their supply and their discharge keep them at their best efficiency, it will be low enough at best and you can never hope to eliminate the loss entirely as long as you find need for Save-alls. As long as water goes through the cylinder, or out the settling tank overflow, you may be assured it will take its toll of fiber and filler along with it.

Another way is to begin at the beginning, and use the proverbial ounce of prevention. Go through the mill and reduce the use of fresh water to a minimum. Do not cripple operations by trying to carry this too far at first, simply shut off the unnecessary use of fresh water. It may seem easier to stick the end of the hose into the pit then to shut off the valve but let us see what that hose stream will cost you in fiber loss in one year. The 50 gallons per minute which it adds means that in additional 72,000 gallons per day leaves the Save-alls, and a conservative estimate of the average amount of stock in this water leaving the Save-alls is 2 pounds per 1,000 gallons or 144 pounds per day worth about \$500 per year at \$25 per ton.

Isn't it worth while to shut off hose streams at \$500 per year each? This looks too good to be true, but don't call it the harmless ravings of a man who never saw a Save-all or a white water sewer, try it for yourself. Stick a healthy one inch hose stream into a barrel and see if it doesn't fill it in about a minute, then filter an average sample of the water leaving your Save-alls and don't be surprised if instead 2 pounds per 1,000 gallons it tests 4 or even 6.

Eliminate Unnecessary Stock

When you have reduced your fresh water to a minimum the next step is to keep all unnecessary stock out of your white water system. For example,—go through the pulp mill and test the discharge water from EACH thickener. This does not necessarily mean a chemical analysis of each sample. Have a supply of 2-oz. bottles numbered to correspond to the numbers of the thickeners, fill each with the white water from its thickener and set them aside for an hour to settle. If the deckles or packing straps on any have slipped out of place at the bottom if a wire facing is cracked, or if for any other cause stock is leaking into the white water compartment it is at once shown up by the increased amount of stock in the water from that particular machine which can be shut down and repaired. Without this simple test it might have gone on unnoticed for several days as even very rich white water from one thickener would hardly be noticeable when mixed with a dozen or more which were all right. To be sure, the Save-alls, if kept in good repair would have caught part of it, but by stopping the leak at its source you have made a 100 per cent saving on that particular item and besides have relieved the stock handling system of recirculating that amount of stock.

*Read at the annual meeting of the Technical Section of the Canadian Pulp & Paper Association, Montreal, Jan. 24-25, 1923.

Generally the white water from ground wood presses is much thinner than from thickeners, don't mix the two, but use all of the richer water you can back in the system and send the thinner water to the Save-alls.

On the paper machines, don't mix the tray water or water from the wire with that from the suction boxes. You'll find the latter only about 30 per cent as rich as the former. You can't use all of both, and the tray or wire water alone is not enough (unless you are running without trays and are using an excessive amount of shower water), so arrange to use all the richer water, make up the deficiency with suction water and send the balance of the suction water to the Save-alls.

Guard Against Leaks

Watch out for leaks of stock into your white water system, or for leaks of stock or rich white water into your Save-alls supply system. For example, if you have a bad edge on the sheet, set the "squirt" just far enough to trim this and give a good edge. Don't set it in to cut off an inch of the sheet to follow around beneath the couch into the white water pit. If you wash felts "on the fly" without shutting the stock off the wire, see that this thick stock is dumped back to the chest and not allowed to lie in the pit to be gradually broken up by the shower water and carried to the Save-alls, they may recover 40 per cent to 60 per cent of it for you but every pound that you put back into the chest means 100 per cent recovery.

A Measuring System for white water losses is of the greatest value. By placing a weir in the white water sewer leaving the Save-alls, a record of the flow can be obtained by the use of a Liquid Level Recorder and either by means of an automatic Sampler or samples dipped at hourly intervals by the Save-all attendant, a cleaner or some other employee in that part of the mill and stored in a container, a sample can be secured which will represent an average for the 24 hours. This sample is filtered and weighed by the Laboratory, and together with the volume gives a measure of the total loss for the day. Plotting this loss from day to day gives an incentive to reduce it, and if leaks occur and the losses begin to mount higher an investigation can be made at once to determine the cause.

Computing Day-to-Day Loss

Such a measuring system gives the only means of knowing what this loss amounts to from day to day, as no dependence can be placed on the book-figures showing the pounds of pulp used per ton of paper made. No one knows how much pulp is used where it is handled as soft stock. A "cord" may be a "cord," but the yield of pulp from it at different mills or in the same mill at different times, remains one of the unknown quantities of papermaking, and not until all the stock used is metered can we hope to have even approximate figures.

The sewer loss figures are positive. If you are measuring all the sewers and find this loss has increased by 1 per cent you know that it is an actual and not a fictitious loss, and search out the cause for it. Without such a measuring system many a heavy loss has been hidden by "large" cords of wood which made the book-figures show a low percentage of stock used per pound of paper made.

As we said before, Save-alls are needed, but don't depend entirely upon their use.

Eliminate all unnecessary fresh water from the entire stock handling system by shutting off hose removing unnecessary showers and using white water in place of fresh water wherever possible.

Where you are now using white water, look into the matter and see if you are using the richest supply available.

Check over your stock handling and white water systems point by point to find the leaks, and do this frequently.

Keep all unnecessary stock or rich white water out of the white water system.

TECHNICAL SECTION, PAGE 56

When you have reduced both the volume and the fiber content of the excess white water to a minimum, then, and not until then, rely upon your Save-alls to reclaim as much more as possible, by having enough to handle the flow, run them slowly, keep them in good repair and by all means install a white water loss measuring system to give you a record of the losses from day to day.

Hoover Paper Committee Meets

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 31, 1923—The Department of Commerce Committee of the American Paper and Pulp Association spent two days in Washington last week conferring with various government officials in an effort to find out in what way the paper industry could co-operate closer with the government for the benefit of the industry. As a result of the conference held, the paper manufacturers feel that their visit accomplished considerable.

On last Thursday the manufacturers met at nine o'clock at the Willard Hotel, following which the full committee went to the Department of Commerce. There they were addressed by Secretary of Commerce Hoover. Dr. Julius Klen, chief of the Bureau of Foreign and Domestic Commerce, John Matthews, chief of the Paper Division, and several other officials of the department. Secretary Hoover spoke on trade associations and also closer co-operation between the government and industry. The committee then took up with Mr. Matthews ways in which the Paper Division could be more helpful to the industry generally.

After spending the morning at the Department of Commerce, the committee held a luncheon at the Cosmos Club, where they were addressed by General Ford, director of the budget. The committee had as guests Dr. Brown, acting director of the Bureau of Standards, L. C. Curtis, chief of the paper laboratory of the Bureau, and others.

In the afternoon the committee conferred with several of the tariff commissioners in connection with a Paper Division. On Friday the committee met with the Paper Specifications Committee of the Bureau of the Budget in connection with government paper standardization.

Among the paper men in Washington were the following: Phillips Kimball, Liberty Paper Company, New York; I. T. Stevenson, Mountain Mill Paper Company, New York; W. F. Brunner, Paterson Parchment Paper Company, Passaic, N. J.; Norman W. Wilson, Hammermill Paper Company, Erie, Pa.; James Logan, United States Envelope Company, Springfield, Mass.; W. J. Raybold, B. D. Rising Paper Company, Housatonic, Mass.; R. Frank McElwain, Crocker-McElwain Company, Holyoke, Mass.; Hugh P. Baker, American Paper and Pulp Association, New York; Milton E. Marcuse, Bedford Pulp and Paper Company, Richmond, Va.; and W. H. Savery, Shenandoah Pulp Corporation, Harpers Ferry, Va.

May Reject Most Paper Bids

By Telegraph to the PAPER TRADE JOURNAL

WASHINGTON, D. C., January 30, 1923—Indications are that the Joint Committee on Printing on next Monday will make only a few paper awards for a period of six months and that the remainder of the paper needed by the Government Printing Office will be purchased on the open market.

Technical Section Index

The Index to the Technical Section of Volume 75 which was prepared by Clarence Jay West and published in January 18th issue, is available separately at ten cents per copy. Many readers will desire the index for binding and also for filing as a ready reference to the articles and abstracts published during the last half of 1922.

CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Raw Materials

Cellulose Content of Pulpwood—H. E. Wahlberg *Svensk Pappers Tid*, 25, 84-85 (1922), *Papierfabr*, 20, 1216-1218 (1922). A sample of wood from the annual rings 53 to 50 gave 47.8 per cent cellulose at 120 degs digestion temperature (with bisulphite liquor) and 48.8 per cent at 125 degs. The cellulose number (in kilos per solid cubic meter) for two different spruces and one pine was found to be 175, 263 and 220, respectively. The discrepancies may be due to fat and resins rendered insoluble during storage, uneven distribution of lignin substances or differences in the cell structure, the author is unable to determine which has the greatest influence. A marked variation was found in the apparent specific gravity of the wood. This is important since pulpwood is always bought and sold in terms of volume rather than weight. Because of variations in different woods each pulp manufacturer should determine the cellulose content of his own wood. A. P.-C.

Chemical Investigation of Swedish Pines and Spruces—H. E. Wahlberg *Svensk Pappers Tid*, 25, 8-12, 25-29, 45-49, 83-87, *Zellstoff u. Papier*, 2, 129-134, 155-164, 202-212, *Papierfabr*, 20, 1097-1100, 1133-1137, 1178-1181 (1922). G. Kinnman in 1919 instituted an investigation to furnish a basis for judging the suitability of different kinds of woods for paper making. These changes have been studied. Annual rings, spring and fall wood for each disk, different quarters and circumferences for each trunk, the height above ground and influence of injuries and abnormalities. Samples were taken as thin disks at different heights of the trunks, but consisted in part of sawdust and coarse shavings. Various physical properties of the woods are recorded. In the determination of cellulose, oxidation with bromine seemed to be the best method but the author did not find any method of hastening this reaction. He finally selected the method of Counciler and that of Klason of first dissolving the bulk of the merustations with bisulphite and then freeing the cellulose content from the rest of the lignin by the bromine method. The cellulose content from twenty determinations varied from 40.3 to 49.2 per cent while another series of determinations varied from 45.2 to 52.7 per cent. Wahlberg suggests calculating the cellulose content in grams per 100 cm³ instead of in grams per 100 grams. Full abstract in *Chemical Abstracts*, 16, 4337-8.—J. G.

Recovering Waste Paper—I. Jespersen *U. S. Patent* 1,424,411 Jan. 8, 1922. A solution of sodium silicate is used to treat the paper stock so as to remove therefrom the printer's ink containing a mineral oil vehicle.—J. G.

Removing Ink from Paper—H. R. Eyrich and J. A. Schreiber *Brit. Patent* 186,372 May 17, 1921. In removing ink from paper, colloidal material such as bentonite having over 50 per cent of its particles of diameters less than 0.0015 mm, or more than 70 per cent colloidal, is used. A mixture of cut or beaten paper alkaline material such as sodium carbonate and bentonite or the like, is agitated in running water. The paper material is held by a screen while the water carries off the bentonite and the ink. The material is then neutralized with an acid or an acid salt, such as acid sodium sulphate or aluminum sulphate and thus brightened.—C. A.

Sulphite Process

Highly Pressed Sulphite Pulp—*Svensk Pappers Tid*, 25, 100-101 (1922), *Chem. Abstr.*, 16, 4342. The water content of pulp reaching the drying cylinder with 64 to 65 per cent of water can be lowered to 45 to 50 per cent by rotary presses with consequent steam saving of 29 to 41 per cent, but the pressed pulp from some mills is said to be less easily bleached, not so easily separated in

the beater of poorer color and lower strength. A comparison of ordinary with highly pressed sulphite pulps and of papers made therefrom has been made by Bergman and the results may be obtained at V. Henriksgatan 16, Helsingfors, Finland.—A. P.-C.

Influence of Bleaching on Pulp Consistency (Degree of disintegration) of sulphite pulp. I. Ekholm *Svensk Pappers Tid*, 25, 179 (1922), *Chem. Abstr.*, 16, 4345. Pulp was treated with 1 to 9 per cent of chlorine. The pulp was bleached with about 4.5 per cent of chlorine. The degree of disintegration rose rapidly 14.1 with 1 per cent of chlorine, 15.1 with 2 per cent, 16.1 with 3 per cent, 16.55 with 4 per cent, and 18.45 with 5 per cent. From unbleached to fully bleached sulphite cellulose the percentage of disintegration was about 25 per cent. The author suggests that when the merustations are dissolved out, the lignin, on separating, allows the bunches of cellulose to drop apart into separate fibers.—A. P.-C.

Reddening of Sulphite Pulp and Its Prevention—Emil Heuser and Sigurd Samuelsen *Papierfabr*, 20, 1249, 1254, 1285-1288, 1321-1326, abridged translation in *PAPER TRADE JOURNAL*, 75, no. 18, 51-53 (Nov. 2, 1922). A review of the literature leads to the view that the red coloration of pulps occurs in easy as well as in hard bleaching pulps and that it is associated with a certain degree of moisture content and the action of light and air. Thus the process is one of oxidation. Other stronger oxidation agents, such as hydrogen peroxide, potassium chlorate, etc., also cause the same reddening. Of the two possible sources of this colored material the tannins and the lignins, the latter are shown to be the more probable. All preparations when treated with oxidizing agents have the same color effects as the unbleached pulp or the waste liquor. Further proof of this is seen in the fact that protocatechuic and vanillic acids, decomposition products of lignin, likewise give these color reactions. The red color is discharged by mineral acids and does not return as long as acid is present. Upon being washed acid-free the color returns. 0.5 per cent alkali causes a yellow coloration of the red pulp or paper but does not prevent return of the red color. Reducing agents destroy the color but later oxidation causes its return. Oxidizing agents, such as bleaching powder, hydrogen peroxide, potassium permanganate, etc., will destroy the color and prevent its return only if used in such quantities as to produce complete bleaching of the pulp. A small amount only intensifies the color. On the other hand 0.5 per cent potassium persulphate in the presence of dilute sulphuric acid or aluminum sulphate completely destroys the color and prevents its return. The time of treatment is about 9 hours. The pulp does not need to be washed after this treatment if aluminum sulphate is used. The treated pulp is practically unbleached, contains the same amount of lignin as before and apparently the total lignin has been changed in some unknown manner so as to render it unsusceptible to further oxidation.—A. P.-C.

Preparation of Sulphite Liquor—D. B. Davis and E. P. Strong *U. S. Patent* 1,424,883 Sept. 8, 1922. The sulphite liquor, which is kept in a storage tank, is circulated continuously through a system of pipes. During this process, sulphur dioxide is introduced into the stream by suitable means. The liquor is subsequently returned to the storage tank at or near the bottom and is thus ready for re-use.—I. G.

Treatment of Sulphite Waste Liquors—F. Goessel *German Patent* 354,624 Apr. 15, 1920. The neutralized and clarified liquor is evaporated under reduced pressure with simultaneous oxidation. In this manner the objectionable constituents of the lye are rendered harmless. The process may be applied to the residue obtained after

treatment of the lye for the production of alcohol and the product is suitable for use as fodder—I G

Paper Testing

Determination of Groundwood in Printing Papers—H Krull and B Mindelkow *Papierfabr.* 20 1213-1216 (Sept 3, 1922), *PAPER TRADE JOURNAL*, 75, no 18, 49-51 (Nov 2, 1922). The determination of the phloroglucol value, carried out exactly according to the method of Cross Bevan and Briggs, affords a convenient and accurate measure of the percentage of ground wood in news and similar printing papers. In calculating the results, however, the original factors of 8 for ground wood and 1 for sulphite cannot be accepted as sufficiently accurate. The true average values for these factors are 7.84 and 1.34 for unbleached strong sulphite. The error involved by using the original factors is negligible for papers containing 65 to 75 per cent of ground wood, but considerable in the case of papers containing low percentages of that constituent. The corrected formula for calculating the results, expressed in terms of the dry substance, is

$$H = \frac{100(P - 1.34)}{7.84 - 1.34}$$

where H is the percentage of ground wood and P is the phloroglucol absorption value of the paper—A P-C

Moisture Influence on Tests of Container Board—Sidney D Wells, *PAPER TRADE JOURNAL* 75, no 23, 47-49 (Dec 7, 1922), *Paper Ind.* 4, 1245-1247 (Dec, 1922), *Paper*, 31, no 7, 7-9 (Dec 6, 1922), *Fiber Container* 8, no 1, 10-12 (Jan, 1923). Curves are given showing the relation of relative humidity of the air to Mullen test, tensile strength, folding endurance and tearing strength of boards and of papers made from typical stocks which find their way into board manufacture—A P-C

Paper Testing Methods—Committee on Paper Testing, Tappi *PAPER TRADE JOURNAL* 75, no 1 48-55, no 2, 43-48, no 3, 45-48, no 4 43-48, no 5 47-50, no 6 43-48, no 7, 46-48 (July 6-Aug 17, 1922). A detailed description of microscopical, chemical and physical methods used in paper testing and of the apparatus employed. A fairly complete bibliography is appended. This is also available as a separate from the Secretary of Tappi, at \$2.00—A P-C

Work of the Paper Laboratory of the Bureau of Standards—F A Curtis *PAPER TRADE JOURNAL*, 75, no 8, 30, 32, 34, 36 (Aug 24, 1922). An outline of the work carried out by the Bureau of Standards—A P-C

Improvements in Methods of Making Herzberg Stain Used in Fibre Analysis—Muriel F Merritt *PAPER TRADE J.* 75, No 8, 43-44 (Aug 24 1922). As a result of a careful investigation of the best method of preparation of the Herzberg stain, the author recommends the following procedure. Solution A—Dissolve 50 g dry zinc chloride (fused sticks) in 25 cc distilled water and, if necessary, add water until the specific gravity is exactly 1.8 at 28 degs C. Solution B—Take part of 12.5 cc of distilled water to rinse the thermometer, the hydrometer and the original zinc chloride container and add to solution A. Dissolve 5.25 g of potassium iodide and 0.25 g of iodine in the balance of the water. Add B to A, stir well, let stand overnight in the dark, pipette off the clear portion into a black bottle, leaving 3-4 cc of the solution above the sediment and add a leaf of crystal iodine—A P-C

The Bursting Strength of Paper, Variations in Results Under the Same Condition—E O Reed and F P Veitch *PAPER TRADE JOURNAL* 75, no 3, 49-52 (July 20, 1922). Results of Mullen tests on 32 samples of paper representative of the chief classes of commercial papers are tabulated and discussed, and the authors draw the following conclusions. Provided the instruments are properly equipped and adjusted, the differences between averages on several testers are negligibly greater than those between averages on the same tester. The differences between averages of 5 and 10 breaks are sufficiently great to show that at least 10 breaks

should always be made. Approximately 90 per cent of all comparable averages differed less than 3 points. Expressed as percentages, the maximum differences between averages of 10 breaks on different machines are from 3 to 20 per cent and the percentage differences are usually decidedly greater on papers of low bursting strength. The difference between breaks at different points in a sheet is much greater than the difference between readings on different gauges on the same break. The normal differences between individual breaks on the same sample and on the same tester may reach 40 per cent of the minimum result on paper of practically any class, usually this difference is much less being nearly 20 per cent, on wrapping it may reach 100 per cent. In important work at least 10 tests (1 test on each sheet) should be made, two testers or two gauges on the same tester should be used—A P-C

Testing the Degree of Digestion of Wood Pulp—H Roschier *Pappers och Travarutskrift*, 1922, no 7, 108-112 (Apr 15) *Zellstoff u Papier*, 2, 184-186 (1922). The rate of reduction of permanganate under standard conditions is proposed as a rapid approximation of the degree of digestion of wood pulp, it is claimed to be particularly applicable for factory control. A tenth normal solution of potassium permanganate is most suitable. About 2 g of finely rasped wood pulp or 6 g of moist pulp squeezed out in the hand, is weighed out and formed into a loose ball. 80 cc of tenth normal permanganate in a glass bottle is acidified with about 1.6 cc of normal sulphuric acid. The pulp is dropped into the bottle, the stopper inserted and a stop-watch started. The bottle is shaken slowly and uniformly by hand and the liquid constantly observed to note the time of disappearance of the red color. During the operation the temperature is maintained at 25 degs C, this should not vary greatly, as the rate of the disappearance of the color is markedly influenced by the temperature. The following grades of pulp have been established: Easy bleaching pulp, 70 sec, slowly bleaching pulp, 50 to 70 sec, medium strong, 35 to 50 sec, ordinary strong, 25 to 35 sec, very strong and hard 25 sec—I G

The Testing of Paper—Raymond Fournier *Papier*, 25, 437-440 (Oct, 1922), *PAPER TRADE JOURNAL*, 75, no 23, 50-51 (Dec 7, 1922). See this Journal, 75, no 25, 58 (Dec 21, 1922)—A P-C

A New Chemical Society

The American Institute of Chemistry was organized at a meeting of local New York chemists at 381 Fourth avenue, January 22. This new society aims to include only chemically trained men who measure up by education and experience to the qualifications set for membership.

It will function along the same lines as the Institute of Chemistry of Great Britain and the Canadian Institute of Chemistry, which have been successful in giving to the vocation of chemistry a professional status by recognizing only those as entitled to be called chemists who satisfy certain standards of capacity.

The American Institute of Chemistry will seek to perform for the qualified chemist the same service as that of the Bar Association for the lawyer and of the Medical Society for the physician.

Dr H G Byers, in charge of the department of chemistry of Cooper Union, and Dr Lloyd Van Doren, a chemical patent lawyer, both John Hopkins graduates, are respectively president and vice-president. C K Simon, president, Dye Products and Chemical Company, 200 Fifth avenue, New York, is treasurer. The secretary is Lloyd Lamborn, editor of *Chemical Age*.

To Go With Uehling Instrument Co

PATERSON, N J, January 29, 1923—Royal E Terhune has been placed in charge of the Northern New Jersey sales territory of the Uehling Instrument Company, manufacturer of CO₂ recorders and other power plant equipment. Mr Terhune was formerly associated with the Uehling Laboratories and is, therefore, well qualified to co-operate with power plant operators.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

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Conducted by THOS. J. BURKE, C.A., Sec-Treas

BUDGETS—THEIR CONSTRUCTION AND USE*

BY HOMER N. SWEET, LYBRAND, ROSS BROS AND MONTGOMERY, BOSTON, MASS

The use of budgets in the administration of industrial enterprises is an appropriate subject for discussion at a convention of cost accountants. The reasons for this will become evident as we proceed to consider what a budget is and why a manufacturing concern should have a budget.

What is a budget? I will give general definitions first because the idea and purpose of the budget are far more important than its form and mechanism. A budget is a device for co-ordinating the activities of all departments of the business. It aims to regulate the policies affecting sales, production, expense burden and finance, to regulate every policy according as each is estimated, in combination with the other to have the most favorable effect on the future income and standing of the enterprise. A concern operating under a budget views critically each project of any magnitude not as an isolated issue, but in the light of the financial program for the business as a whole. One illustration will bring out this point. Contracts for the purchase of large quantities of material, however low the prices might be, would not be entered into without reference to the complete budget of all the transactions of the business for a commensurate period of time, and if the materials must be paid for months in advance of sales collections, in sums so large as to deplete working capital temporarily, then borrowings would be pre-arranged to cover the deficiency.

Assembles Intelligent Estimates

The budget assembles the most intelligent estimates for a definite period of all the factors that influence profits and financial health. These estimates are expressed in dollars and cents and projected on a statement which all can interpret and criticize. The management then has a barometer of the possibilities of success or failure for all proposed actions and developments during the coming period. A comprehensive budget is an advanced idea in business administration. The experience of the few concerns which have adopted it, and constantly relied upon it, is that it will serve as a surer guide to the soundest conclusion than judgment unaided by such a statement can possibly be, given in either case the same degree of sagacity of mind. The reason for this statement is that a complete schedule of estimates seldom fails to reveal conditions and tendencies, the full significance of which would not otherwise be perceived. But note that the estimates must be comprehensive, that they must cover all the anticipated transactions of the business. A budget founded on this principle may seem to fill a need

of the largest industrial corporations, but it is none the less effective in the moderate-sized and smaller concerns.

The budget is a look into the future. It is a forecast of sales, production costs, selling and administrative expenses, and costs of plant extensions and replacements for a definite period, also of cash collections and payments and inventory changes. It is a composite of the approved estimates of the heads of departments responsible, respectively for sales, production, purchases, expense control, plant construction and collections. The estimates are based upon past experience and upon prospective influences as predicted and calculated.

The budget is not a guessing game. It does not seek to find who in the organization are the prophets. Basically, it rests on the principle of administration that the policies of any one division should be discussed, agreed to and regulated with ample consideration of all the transactions of all the divisions, as projected for a future period. If this idea is not clearly understood and heartily endorsed, the budget machinery will not perform the functions for which it is designed.

A Few Typical Problems

Consider a few typical problems involving broad policies that confront the executive committee or president or general manager. Questions such as these are constantly arising:

Shall we go into the market and buy materials in quantity for stock or shall we buy from hand to mouth as stocks run out?

Shall we manufacture standard lines for stock in anticipation of customers' orders? If so, to what extent?

Shall we enlarge the plant? Shall we install more machines in this department or that?

Shall we increase wages? If so, how much?

Shall we borrow money from the banks or issue stocks or bonds? Often the question takes this form: If we borrow up to the limit of our credit, shall we have enough working capital to finance increased business expected to follow from aggressive sales promotion?

These questions may be answered day by day as they are forced upon the attention of the executives, but if they are treated as isolated problems, there will be lack of co-ordination. The greatest achievement that can be accomplished in vast organizations is the timing of production with sales, the timing of purchases with production, the control of the variable overhead expenses in keeping with the fluctuating volume of business, the regulating of costs in proportion to selling prices, the anticipation of financial require-

* Published in the 1922 Year Book issued by the National Association of Cost Accountants.

ments as they may expand or contract. Administrative capacity is taxed to the utmost to maintain a uniform and well balanced execution of policy. If some departments outrace the others, if vital financial influences are overlooked or miscalculated, there is bound to be loss, loss which may materially affect the earnings and financial stability of the company.

The Aim of the Cost Accountant

It should be the aim of the cost accountant to assist the executives in co-ordinating the activities of the various branches of the business. This is a real problem of organization, which cost accountants are qualified to help solve, because of their experience in building cost plans into the structure of the factory organization. They realize that no cost accounting plan can be successful in a practical way unless it is constructed around the operating requirements of the particular business and unless (this is just as important) there is an effective organization at the main office and throughout the plant. The ascertainment of unit costs is not an end in itself; it is useful only as it singles out the possibilities for savings and reveals where adjustments can be made to augment profits. Cost accountants look upon accounting, therefore, as an instrument of factory management, their aim is to make the cost system serve the production manager, the sales manager, and the chief executive. It is this point of view which is essential in any effort to introduce budgetary control into an industrial concern and to establish it permanently in the administrative scheme.

I have described the budget in general terms and emphasized its main purpose as a means of assisting executives to co-ordinate all departments. Many cases could be cited to show how a contemplated project was discovered to be undesirable or impracticable, or even how financial disaster was averted by the warnings revealed upon an unprejudiced examination of the budget. In such cases the restraints upon zealous activity fully justified the utility of the budget. The budget, however, is not merely a brake to arrest unprofitable policies. It can flash starting signals as well for expansion of facilities and increase of production provided budgetary supervision is paralleled by a study of the business cycle.

That is what the budget may be expected to accomplish, despite the obvious limitation that it is based to a considerable extent upon estimates. A business, however, is not conducted on estimates, there is no substitute. I wish I were at liberty to tell you how much some of the largest organizations in the country expend annually in compiling budgetary data. That would emphasize the importance that some companies attach to the value of budgetary data.

Significant Phases of the Subject

With the idea of the budget firmly fixed in our minds we may turn our attention to the mechanism of the budget. As the time at our disposal is limited let us confine our discussion to the most significant phases of the subject.

In a manufacturing concern there are four main groups of estimates to be compiled, namely:

- 1 Estimates of extensions, installations, renewal and replacements of plant and equipment
- 2 Estimates of manufacturing, selling and administrative expenses
- 3 Estimates of sales
- 4 Estimates of costs of production

These estimates may be for three months, six months or twelve months, depending on the nature of the business. The budgetary period, whatever its length, should usually be subdivided into months and the estimates should be made at a specified date each month. For example, if a concern is operating its budget under the three months' plan, it would estimate, say on September 15, the budgets for September, October and November, on October 15, it would revise the estimates for October and November and make estimates for December, and so on. The object of monthly

estimates is to afford comparisons with the actual figures as they become known, month by month.

The estimates should be made by the heads of the responsible departments, and not by a bookkeeper or office man. This requirement is essential to fix responsibility. There must be a classification of accounts corresponding with the divisions of responsibility. In other words, the accounts must match the organization. If responsibilities are not distinctly defined or if there is an overlapping of responsibilities, then the budget will not operate smoothly until the defects in organization are removed.

The estimates are subject to revision before final acceptance by the executive committee. There may be two or more preliminary sets of estimates. The budget as adopted is based on the approved estimates.

Estimates should be expressed both on the accrual basis and on the cash basis to supply all the data needed for the three statements which together exhibit the budgetary forecast, namely:

- 1 Statement of estimated cash receipts and payments
- 2 Estimated income or profit and loss statement
- 3 Estimated balance sheets

That is the mechanism of the budget in outline.

Let us discuss further the four groups of estimates, plant extensions and replacements, expense, sales and costs of production.

Plant Extensions and Replacements

Plant extensions and replacements should not be undertaken except upon the authorization of the directors or the executive committee. Authorizations should not be perfunctorily granted. Dependable, detailed estimates of all the direct and indirect costs should be submitted by engineers. These should be critically examined. The estimates should be projected into the complete budget, which consists also of forecasts of expenses, sales and production costs. If a proposed extension or replacement is desirable from all points of view and resources can be made available to defray the cost without weakening the financial structure of the company, then the outlay may be formally authorized. A production manager, eager to expand facilities so as to increase output, may, if unrestricted, commit the concern to obligations which it cannot meet. Blame should not be saddled on the production manager for such action, however, for he cannot be expected to have the broad view of the business as a whole that would enable him to discern that a contemplated project should be rejected for financial or other considerations outside the province of production. Even when it is understood that extensions and replacements are not to be undertaken without authorization, energetic production managers will often proceed with construction or alterations in the expectation that authorization will be granted when subsequently requested. The control over expenditures that tie up funds in fixed capital cannot be too rigid. Concerns that have not been strict in the administration of plant expenditures should not ignore the sad experience of certain companies that have in recent years suffered reverses from which they cannot recover, mainly because of ill-considered commitments for plant additions.

Expenses

The second class of estimates mentioned has to do with expenses. Much can be accomplished towards minimizing expenses by resolutely adhering to the plan of budgeting them in advance and regulating the items of outgo, month by month, with an eye to the limits set. Cost accountants institute this plan in predetermining overhead or burden rates.

I will remark upon certain important phases of expense control, which are frequently lost sight of. No matter how closely you may concentrate your critical attention on individual expense accounts, you may sanction too heavy an overhead load if you do not weigh the question of whether the total expense is in proportion to the entire budget. That is, whether the business is able to carry the burden. You may hear plausible reasons recited to justify

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every item on an expense budget—apparently no item could be dispensed with or curtailed without serious disadvantages—and yet when you turn aside from the details of the expense budget and give consideration to the earning power and financial situation you may discover that expenses are certainly too large in total. Necessity of curtailment, if clearly recognized and frankly acknowledged, will often point the way to the means of effecting economy.

A word of caution should be interposed concerning the administration of the expense budget. An inflexible expense budget may defeat its own end. It is not always sound to predetermine expense limitations for a period of twelve months and to regard them as fixed, not to be modified under any circumstances. New developments, occurring within the period may warrant greater expenses than were contemplated in the original budget. There should be reasonable latitude in the control of expenses. The scheme of control should not be so iron clad that meritorious services, not anticipated at the beginning of the year, cannot be promptly rewarded merely because the advances are not provided for in the budget. If changes are authorized, the budget should be amended for the balance of the year.

Estimates of Sales

Estimates of sales involves the quota idea with which you are familiar. The sales estimate is dependent in part upon the capacity of the production department. The estimate of production, conversely, is dependent in part upon the volume that can be distributed by

the sales department. There should be the closest co-operation between the departments of sales and production in setting their respective estimates. Out of their joint conferences is evolved the production schedule, subject to the approval of the executive committee.

Estimates of Costs of Production

Estimates of the costs of production are based on the production schedule. In order that all the probable changes in inventories and liabilities for purchased materials may be forecasted, the estimates of production costs must be subdivided to segregate those pertaining to payroll earnings, purchases to be received and to be paid for, materials to be drawn from stores, products to be worked on, products to be finished and products to be shipped from stock. This is the most complicated section of the budget. Here the production manager is at the mercy of the cost accountant. If there is no adequate scheme of cost accounting, the production costs and the segregations cannot be estimated with confidence.

One more thought and I shall conclude. A budget cannot be abandoned and resurrected at will. It must be kept in constant use. During the recent depression many concerns attempted for the first time to install budgets in a frantic endeavor to save the situation. Some of them have since discontinued the regular compilation of budgets because money rates have become easy. To be of the greatest worth the budget must be on continuous session. It should not go on a vacation.

WHAT INDUSTRIAL ACCOUNTING SHOULD MEAN TO THE EXECUTIVE

The Journal of Accountancy for January contains an article entitled "What Industrial Accounting Should Mean to the Executive" by Stanley G. H. Fitch, being an address which he delivered at the 7th Annual Meeting of the Associated Industries of Massachusetts in Boston in October last.

This address is divided into the following headings:

1. Scope of industrial accounting
2. Co-ordination of cost accounting with control of inventories and production
3. Fundamental knowledge of cost factors essential to interpretation of results
4. Cost accounting necessary to business success
5. Budgetary control of business operations
6. The executive and the accountant: the personal relation
7. The solution of daily problems in industrial accounting

The Journal of Accountancy is the official organ of the American Institute of Accountants to which most of the best accountants in the country belong. The fact that the official organ of this Institute publishes this article proves conclusively the increasing importance which industrial or cost accounting is assuming in the minds of what have been called the old conservative school of accountants.

Best Barometer of Business

Under No. 1 Mr. Fitch says: A well-rounded system of industrial accounts furnishes the best barometer of business and should embrace records which may be generally classified under three main divisions, viz:

(1) General books of account from which condensed financial statements may be prepared periodically, showing the financial condition and operating results. The balance-sheet, which sets forth the status of the company's financial condition at stated dates, and the profit and loss statement which accounts for the changes in financial condition between two balance sheet dates, are the standard financial statements which do not require extended comment at this time.

(2) Cost accounts under the control of the general books together with relative production records. The cost accounts should

be designed to make available comparisons (such as by units of product) in such detail as may be necessary to disclose the causes for variations upward or downward. Standard costs in comparison with actual costs frequently give more significant information than a mere examination of actual costs which may have been incurred under abnormal conditions.

(3) Subsidiary books and records co-ordinated with the general books and under their control, from which statements containing analytical and comparative information in support of the major statements may be prepared. The analytical statements should be designed to show such information as may be required to set forth in detail the essential and significant facts of the business operations. For example, a comparative analysis of sales classified according to lines of product by territories or by salesmen, reflects the trend of the business as affected by local or national conditions, seasons, variations in energy or efficiency of the sales force, etc. A similar analysis of selling expenses in conjunction with the sales analysis indicates whether or not variations in such expenses follow the variations in business done and permit the necessary investigations in case the results appear to be doubtful or illogical. Statistics of production should also be developed upon similar lines.

Industrial Accounting Co-ordination

In every branch of industrial accounting co-ordination should be the watchword. This is particularly true of cost accounting. Mere statistics which are not reconcilable with nor controlled by the financial books, are unreliable and frequently lead to erroneous conclusions which inevitably result in disappointment or disaster. The value of a cost accounting system may be measured directly in terms of the quality of information furnished, the clarity with which it is presented and the speed with which it is made available. The study of ancient history may be of some interest to posterity, but in relation to present results of business operations it is of little value to an inquiring executive.

Under No. 2 Mr. Fitch emphasized the fact that the executives should know the basis upon which materials have been included and whether labor charges have been put in at current rates or anticipated rates payable at date when product is to be manufac-

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ROGERS WET MACHINE



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TYPES—Single and Double Press
72" wide

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for shipping By this great capacity
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within one year, and are promised a
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tured In respect to overhead expenses he points out that the executive should understand whether such overhead represents an abnormal overhead under abnormal conditions

Perpetual Inventory and Store Control

Under No. 3 he refers to the booklet published by the Fabricated Production Dept. of the U. S. Chamber of Commerce "Perpetual Inventory and Stores Control." Copies of this booklet have been distributed by this association but a few more copies are available for anybody who cares to write for one. He also refers to what he calls "the dominance of the sales manager in certain organizations" stating that sometimes these managers adopt a policy involving the manufacture and sale of an excessive variety of goods, failing to remember that quantity production in a few lines spells profits, while production widely diversified in many lines may result in small profits, or even losses.

Under No. 4 he draws attention to the fact that executives should have a fundamental understanding of the factors of cost especially of "overhead expense."

Necessary to Business Success

Under No. 5, namely "Cost Accounting Necessary to Business Success," he says, "Successful executives have long realized that cost keeping or cost finding is essential to business success" and also gives the following extract from a recent Government survey:

"It is the belief of the commission that the small margin of profit existing in so many of our industries is due to the ignorance on the part of manufacturers of what their goods actually cost to produce. This ignorance causes them to make unprofitable prices which the manufacturer who does know his cost is forced to meet to a large extent."

"Formerly the necessity for the determination of true manufacturing costs was not as imperative as it is today. Margins between cost and selling price in most lines were larger. Costs could be ignored except in a general way and a good return still be made on the investment but today margins of profit in most lines of trade are very much more narrowed than formerly and the necessity for the most efficient management and closest analysis is felt as never before."

"It is necessary today for the business man's success that he know on what articles he is making a profit and on what articles he is incurring a loss. Competitive conditions are seriously disturbed where losses on one or more articles are recovered by profits on other articles. It is obvious that a manufacturer should not only know the cost of each article he manufactures but that he should see that every article manufactured bears its proper share of factory and general overhead."

"Most manufacturing plants have grown to a size which renders personal supervision impossible. The only reliable way, therefore, by which an executive can judge the efficiency of an organization is through a system of periodical statistical reports. These reports can be accurately obtained only when a good cost system is in operation."

"New methods are being introduced and improved machinery installed in the factory every day with a view of reducing costs either by the elimination of waste or by increasing efficiency. It is impossible to know whether the introduction of these improvements will reduce costs unless the manufacturer knows not only what his total cost is but exactly what items make up the total. Items of cost are frequently lost track of when the total only is considered, while if these items were properly segregated so as to show what they were they could be materially reduced and in some instances eliminated altogether."

Manufacturers May Have Copy

If any manufacturer cares to have a copy of this article he may obtain it by writing to the secretary of the Cost Association of the Paper Industry.

COST SECTION

Canadian Exports of Paper for December

A special report from the Canadian Pulp and Paper Association gives details of the exports of pulp and paper for December. The total value of the pulp and paper exports for the month was \$10,249,418 which was a decline of \$1,176,580 from the previous month and a slight decline from December, 1922.

Details for the month were as follows:

	December 1921		December, 1922	
	Cwts	Value	Cwts	Value
Paper				
News print	1 453 195	\$5,708 178	1 710 110	\$6,127,921
Book Paper	1,307	12,561	1,650	10,880
Other Paper and M'n'frs		395 411		483,586
		\$6,116,150		\$6,622,387
Pulp				
Sulphate (Kraft)	240 833	744 774	222 966	714 533
Sulphate Bleached	307 428	1 260 028	252 039	1,094 469
Sulphate Unbleached	3 2 990	1 092 464	322 023	820 317
Mechanical	750 793	1 112 117	602 985	997 712
	1 692 044	\$4 209,353	1 400 013	\$3 627 031

The principal countries of destination of these exports in December are shown in the following table:

	Paper	Pulp	Total
United States	\$6 068 934	\$3 147 055	\$9,215 989
United Kingdom	158,610	302 038	460,648
Other Countries	394 543	177 938	572 481
	\$6 622 387	\$3 627 031	\$10,249 418

Pulpwood exports for the month were 85,744 cords valued at \$836,396 compared with 46,379 cords valued at \$480,160 in December 1921.

The figures for the nine months ending December 31, show considerable increases over those for the corresponding nine months of 1921. Wood pulp exports were nearly 50 per cent greater than last year and news print exports were over 40 per cent greater. The total value for the period was \$88,320,722 compared with a total of \$77,925,275 in 1921.

The details are as follows:

	9 Months 1921		9 Months 1922	
	Cwts	Value	Cwts	Value
Paper				
News Print	10 465 807	\$47 835 993	14 517 771	\$51 563 093
Book Paper	16 046	190 016	40 379	313 962
Other Paper & M'n'frs		3 070 416		4,611 755
		\$51 096 335		\$56,388 810
Pulp				
Sulphate	1 664 357	5 763 918	2 253 521	6 963 864
Sulphate bleached	1 238 941	5 576 279	2 313 56	9 243 864
Sulphate Unbleached	2 146 412	7 181 308	3 448 866	8,422 758
Mechanical	4 107 593	8 347 435	5 068 087	7 301,426
	9 149,303	\$26 808 940	13 079,000	\$31,931,912

These figures show an increase in our exports of news print of 4,051,964 cwts, exports of book paper have almost doubled and pulp exports increased by 3,929,697 cwts.

Pulpwood exports for these nine months amounted to 749,811 cords valued at \$7,710,205 compared with 564,446 cords valued at \$7,229,593 in the nine months of 1921.

T. T. Webster Heads Paper Traffic League

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 29, 1923—A distinct honor has come to Dayton in the selection of T. T. Webster, as president of the Pulp and Paper Traffic League of the United States. This League has a membership of forty, representing 123 companies throughout the United States operating 208 mills.

The combined capacity of these mills is stated to be 6,356,308 tons of paper annually.

Mr. Webster is widely known in the paper trade both here and throughout the country. He is the general traffic manager of the G. H. Mead Company of this city and the president of the Miami Valley Traffic Club, an organization composed of traffic directors of paper and allied companies.

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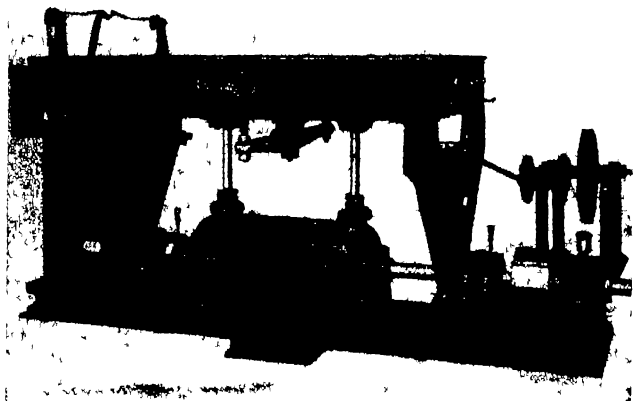
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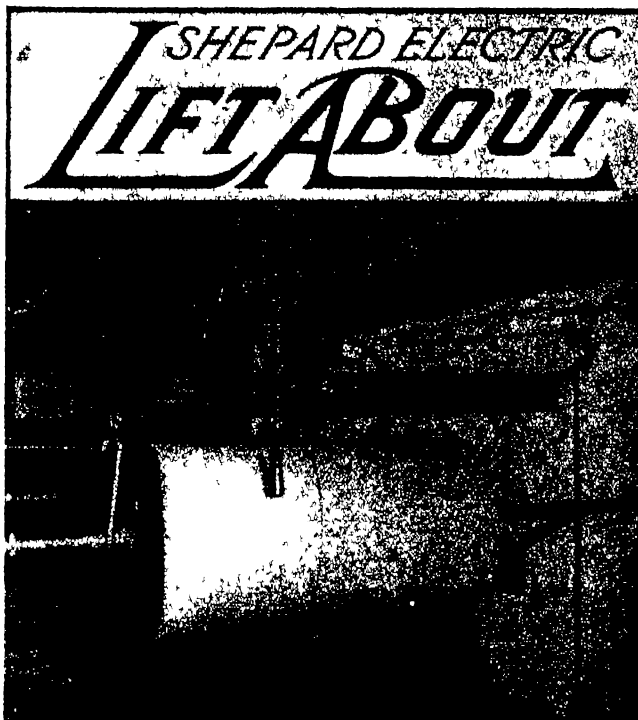
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"When we want to put a roll into the sheeting machine we run a bar through the center of the roll and fasten a hook on each end of the bar. The *LiftAbout* raises the roll, carries it to the machine, and lowers it into place. Although the hoist has a rated capacity of only 1,000 lbs., it can easily lift the 1,500 lb. rolls.

"It handles 25 to 30 rolls a day, saving at least one man's labor, which is worth \$1,144 a year. It also saves over 2 hours' time a day on the sheeting machine, increasing its capacity from 6 tons to 10 tons a day. This is due to the fact that the machine has to be stopped when being loaded.

"The *LiftAbout* gives no mechanical trouble and effects just what we bought it for—increased production. A little later we expect to use the hoist even more effectively at our new warehouse, where we shall run more extensive overhead tracks."

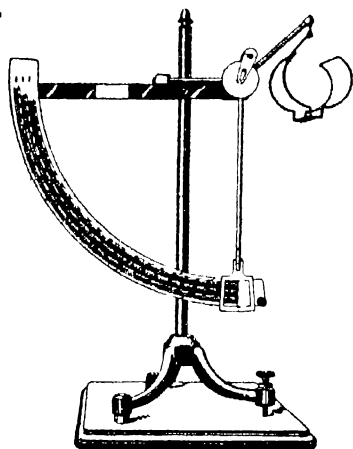
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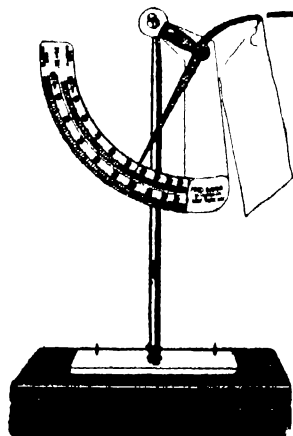
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News of the Boston Trade

[FROM OUR REGULAR CORRESPONDENT.]

Boston, Mass., January 29, 1923—At the Army Base, South Boston, because of the congestion of freight from foreign steamships, it was reported this week that 30,000 bundles of Swedish wood pulp were in storage, consigned to a Massachusetts papermaking concern, which was unable to move it because of the snow difficulties. Big motor trucks have been useless because of the heavy snowfall for the long hauls. But they have successfully taken the place of the railroads, demoralized by the winter forces, in the short hauls.

The appointment of Chester L. Whittemore as traffic manager of the New England Paper and Pulp Association is being received with enthusiasm by the Boston paper men. Whittemore, who succeeds Charles H. Tiffany, has been secretary of the organization for nearly nine years, as well as traffic manager for the S. D. Warren Paper Company, and is thoroughly conversant with New England paper rate matters. A. A. Rapheal, assistant to Mr. Tiffany, will continue as assistant to Mr. Whittemore.

The Shawmut Paper Box Company, of which Lyle A. Brown and George B. Roy are president and vice-president, respectively, has taken over the building on Landsdowne street, Cambridge, formerly used by the Kue & Hutchins Shoe Company as a factory. Box-making machinery is now being installed, and upon the completion of the work paper boxes will be manufactured by the Shawmut company.

A sharp rise of five dollars or more a ton in boards is reported by the dealers in box boards in Boston, thus bringing the prices up to the highest that they have been for months. Difficulties in getting materials, embargoes on the railroads, and labor trouble, with increase of wages are the factors blamed for the new increase. In spite of the increase in prices the Hub dealers still report that the orders are coming in. This is due undoubtedly to the increase in practically every line of business, many of which use box boards in some manner in their daily business.



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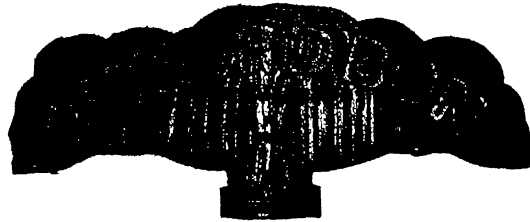
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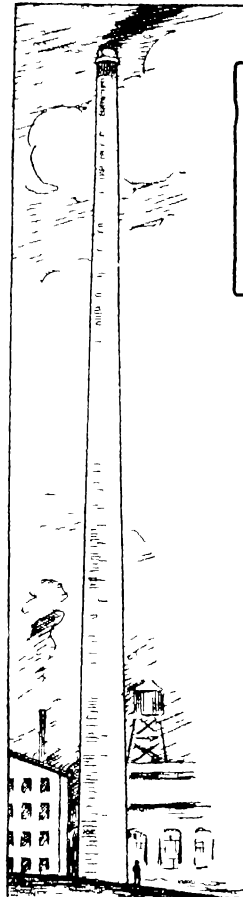
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New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, January 31, 1923

New York's paper markets registered distinct advances in tone during the past week, and in some cases price increases attended this hardening movement. The unusual activity in nearly every market may best be ascribed to constantly mounting raw material costs, as the situation which now prevails is an unusual one when the season of the year is taken into consideration. From all appearances mechanical wood pulp has reached the peak of its climb for some time to come, having advanced some 70 per cent in the past three months. Pulp men are inclined to believe that the advances made in this market are out of proportion with those in the chemical pulp field and, in spite of the continued scarcity of water in grinding regions, they feel it will not be long before prices will ease off until the proper equilibrium between these two raw materials is attained.

Persistent advances in waste paper prices corresponding with the pulp increases give manufacturers but little in the way of an alternative between these raw material sources. So in advancing the price of finished paper the producer is resorting to the only possible expedient which will enable him to continue operating upon a competitive basis. Beside the scarcity and high cost of the crude materials entering into the making of paper, the exceptional demand for all grades of the finished product gives the industry an exceptionally active aspect, the probabilities being that this condition will obtain well into the spring and summer of the current year.

The past week has been an active one in news print circles although many manufacturers are still greatly handicapped by the shortage of empty freight cars. One prominent New York producer stated that his company now has ready for overdue contract delivery hundreds of tons of finished paper, but transportation congestion is such that available cars are far too inadequate. Prices remained firm and the feeling was current that they would seek higher levels if groundwood continues to advance and no settlement is reached in the Swedish pulp strike in the near future.

Book paper continued to improve in demand and exports picked up materially in the course of the week. Prices held steady and it is generally believed they will advance in keeping with the augmented demand from consumers.

Fine paper enjoyed a satisfactory week's business throughout the Metropolitan district, several large houses reporting that buying was conducted on a broader scale than in any previous week this year. Salesmen and orders free and state that their customers are gradually relinquishing the "hand to mouth" buying tendency which prevailed during the greater part of 1922.

Tissues accelerated both in price and demand during the week's transactions, advances in the former being traced to the high cost of mechanical pulp and in the latter to the strides which are being made in the textile, shoe and other industries using large quantities of the finished commodity. Mills are severely harassed in consequence of the pulp shortage and orders are sold contingent upon their ability to ship at the time stated.

Wrapping paper has held its own during the past week, the volume of sales increasing almost daily, according to several large producers and importers of the commodity. Prices are regarded as quite firm and any revision is expected to be in an upward direction. Kraft pulp appears to be on the verge of a quotational advance and reports from Sweden as to the extent of the pulp strike give this market a bullish aspect.

Boards held the drastic price advances of the past two weeks and a lively business was reported in all quarters. Paper stock advances have played an important role in jacking up board prices to their present position as have the scarcity and high cost of ground wood. Boxboard has been exceptionally active.

Mechanical Pulp

Pulp men differ widely in their views on the exact status of the groundwood situation. Whereas one executive will insist that at present water conditions are so aggravated in grinding regions that pulps will not stop this side of the \$60 mark, another will point to the inevitable February thaw and maintain that at its present \$50 level mechanical pulp is at its peak. It is generally agreed in the trade that in spite of the tremendous demand from board and tissue mills as well as other large consumers, to say nothing of the news print industry, ground wood is relatively higher priced than chemical pulp. The market is still very firm and practically no spot supplies are available at any price, but fundamental conditions do not appear to warrant a protraction of the present values for a very long period of time.

Chemical Pulp

The market for chemical pulps on the contrary, is essentially strong in its undertone. The quotational advances which have taken effect since January 1 have been in the main, a result of the substantial demand from the consuming trade. The effect of the Swedish pulp strike can hardly be said to have molested domestic market conditions as yet, but steady advances are in line for the next six weeks if some arbitration is not evolved in the Scandinavian tie up. Both imported and domestic grades of bleached sulphite are being quoted at 4.50 to 5.00 cents a pound, while soda pulp holds at 4.25 to 4.50.

Old Rope and Bagging

Rope paper manufacturers continued to use sizeable quantities of No. 1 domestic Manila rope throughout the past week and the demand on other grades substantiated the firm position this market has come to hold.

Bagging has advanced in the roofing grades, while scrap has held its own, moving to tissue mills in medium-sized quantities. Demand has been steady on the whole and stronger prices are believed to be imminent.

Waste Paper

Still further price increases added to the bullish attitude of the waste paper market in the course of the week, the lower grades being most conspicuous in the upward markings. The market is very sensitive at present, having eased off slightly in these grades at the beginning of the week as a combined result of temporarily decreased demand from the West and railroad embargoes. Common paper is now hovering around the dollar mark while mixed paper has advanced to a maximum of \$1.50 per cwt.

Rags

The papermaking grades of rags have held in consistently good demand during the week, especial emphasis being laid upon the re-picked gradings, street soiled whites, thirds and blues and miscellaneous white stock, 5.00 to 5.25 cents a pound being quoted on No. 1 quality of the latter. Prices continue to hold quite firm.

Twine

A fairly steady volume of business characterized the light activity in the twine market during the course of the week and although no concrete evidences of the long looked for price boosts were brought forth, dealers feel that these will come in early February in consequence of the advanced jute and sisal costs.

E. P. Wood Promoted in India

[FROM OUR REGULAR CORRESPONDENT]

CANTON, N. C., January 30, 1923.—Edward P. Wood, son of A. D. Wood of the Champion Fibre Company, who went to Rajamundry, India, last summer as chemical engineer of the Carnatic Paper Mills, Ltd., has been promoted to the position of general superintendent. Bamboo papers are made at this mill.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations January 30, 1923

	BID	ASKED
American Writing Paper Company pref	24	26
International Paper Company, com	50 3/4	51
International Paper Company pref, stamped	70	71
Union Bag & Paper Corporation	64 3/4	65

Paper			Kraft (Domestic)		
F o b. Mill			Soda Bleached		
Ledgers	11 00	@ 38 00			
Bonds	9 00	@ 55 00			
Writings—					
Extra Superfine	16 00	@ 35 00			
Superfine	14 00	@ 30 00			
Tub Sized	10 00	@ 15 00			
Engine Sized	8 50	@ 11 00			
News—f o b. Mill—					
Rolls, contract	3 80	@ 3 95			
Rolls, transit	4 00	@ 4 25			
Sheets	4 25	@ 4 50			
Side Runs	3 50	@ 4 15			
Book, Cased—f o b. Mill—					
S & S C	7 50	@ 14 00			
M F	7 00	@ 10 00			
Coated and Enamel	9 00	@ 14 00			
Lithograph	9 00	@ 14 00			
Tissues—f o b. Mill—					
White, No 1	95	@ 1 10			
Colored	1 25	@ 2 50			
Anti Tarnish	1 90	@ 2 40			
Silver Tissue	—	@ —			
Manila	90	@ 1 00			
Kraft—f o b. Mill—					
No 1 Domestic	7 00	@ 7 50			
No 2 Domestic	6 75	@ 7 00			
Imported	6 50	@ 7 00			
Screenings	3 25	@ 3 50			
Manila—					
No 1 Jute	8 50	@ 9 00			
No 2 Jute	7 75	@ 8 50			
No 1 Wood	4 50	@ 5 50			
No 2 Wood	4 00	@ 4 50			
Butchers	4 25	@ 4 75			
Fiber Papers—					
No 1 Fiber	6 00	@ 6 25			
No 2 Fiber	5 25	@ 5 50			
Common Bogus	3 50	@ —			
Card Middles	4 00	@ 5 00			
Boards—per ton—					
News	75 00	@ —			
Straw	80 00	@ —			
Chip	70 00	@ —			
Binders' Board	87 50	@ —			
Sgl Mia 11 Chip	87 50	@ —			
Wood Pulp	85 00	@ —			
Container	90 00	@ —			
Wax Paper—					
Self Sealing White					
28 and 30 lb	11 00	@ 12 00			
Waxed Tissue	1 60	@ 1 80			
Glassine—					
Bleached, basis 25 lbs	15 00	@ 16 00			
Bleached, basis 20 lbs	17 00	@ 18 00			
Papermakers' Felts, per ton—					
Dry	75 00	@ 85 00			
Saturated	65 00	@ 75 00			
Sheathing Paper, per ton—					
Rosin Sized (red and gray, 30 lbs per 500 sq ft)	55 00	@ 65 00			
Mechanical Pulp					
(Ex Dock)					
No 1 Imported (F o b. Mill)	44 00	@ 48 00			
No 1 Domestic	46 00	@ 50 00			
For immediate shipment	50 00	@ —			
Chemical Pulp					
(Ex Dock, Atlantic Ports)					
Sulphite (Imported)—					
Bleached	4 50	@ 5 00			
Easy Bleaching	3 25	@ 3 50			
No 1 strong unbleached	3 00	@ 3 25			
No 2 Strong unbleached	2 85	@ 3 10			
No 1 Kraft	3 00	@ 3 20			
Sulphate—					
Bleached (F o b. Pulp Mill)	4 00	@ 4 25			
Sulphite (Domestic)—					
Bleached	4 50	@ 5 00			
Strong unbleached	3 00	@ 3 25			
Easy Bleaching	3 80	@ 3 50			
Sulphite	2 75	@ 3 00			
News Sulphite	3 10	@ 3 40			

India, No. 6 basis—		
Light	.20	.21
Dark	.19	.20
B C, 18 Basis	.41	.42
A B Italian, 18		
Basis	51	61
Finished Jute—		
Dark, 18 basis	.29	.30
Light, 18 basis	.26	.27
Jute Wrapping, 3-6 Ply—		
No 1	23	24
No 2	21	22
Tube Rope—		
4 ply and larger	15	17
Fine Tube Yarn—		
5 ply and larger	19	21
4 ply	20	22
3 ply	20	22
Unfinished India—		
Basis	16	17
Paper Makers Twine		
Balls	13	15
Box Twine, 23 ply	18	19
Jute Rope	17	20
Amer Hemp 6	.33	.35
Sisal Hay Rope—		
No 1 Basis	15	17
No 2 Basis	13	15
Sisal Lath Yarn—		
No 1	14	15
No 2	11	13
Manila Rope	18	19

Old Waste Papers

(F o b. New York)

Shavings—		
Hard, White, No. 1	4 20	@ 4 40
Hard, White, No. 2	3 75	@ 4 15
Soft White, No. 1	3 60	@ 3 80
Flat Stock—		
Stitchless	2 65	@ 2 70
Over Issue Mag	2 75	@ 2 85
Solid Flat Book	2 45	@ 2 50
Crumpled No 1	2 20	@ 2 35
Solid Book Ledger	3 00	@ 3 25
Ledger Stock	2 70	@ 2 80
New B B Chips	1 00	@ 1 10
Manilas—		
New Env Cut	2 80	@ 3 10
New Cut No 1	2 05	@ 2 30
Extra No 1 Old	1 80	@ 1 90
Print	1 65	@ 1 75
Container Board	1 50	@ 1 65
Bogus Wrapper	1 25	@ 1 40
Old Krafts, machine compressed		
Bales	2 15	@ 2 30
News—		
No 1 White News	2 25	@ 2 40
Strictly Overissue	1 60	@ 1 70
Strictly Folded	1 40	@ 1 55
No 1 Mixed Paper	1 35	@ 1 50
Common Paper	90	@ 1 05

CHICAGO

(FROM OUR REGULAR CORRESPONDENT)

Paper			Old Papers		
F o b. Mill					
All Rag Bond	35	@ 40	Shavings—		
No 1 Rag Bond	30	@ 35	No 1 Hard White	4 25	@ 4 45
No 2 Rag Bond	18	@ 25	No 1 Soft Shav	4 00	@ 4 25
Water Marked Sulphite	10	@ 14	No 1 Mixed	1 90	@ 1 90
Sulphite Bond	9	@ 12	No 2 Mixed	1 80	@ 1 90
Sulphite Ledger	11	@ 14	White Envel Cut	4 25	@ 4 45
Superfine Writing	18	@ 24	Ledgers and writing		
No 1 Fine Writing	14	@ 22	mas	3 00	@ 3 15
No 2 Fine Writing	12	@ 20	Solid Books	2 85	@ 3 10
No 3 Fine Writing	9	@ 12	No 1 Books Light	2 65	@ 2 80
No 1 M F Book	6 1/2	@ 7	Blanks	2 25	@ 2 50
No 1 S & S C	7	@ 7 1/2	Ex No 1 Manila	2 60	@ 2 75
Coated Book	9	@ 10 1/2	Manila Envelope		
Coated Label	9	@ 10	Cuttings	2 65	@ 2 80
News—Rolls mill	4	@ 4 1/2	No 1 Manila	2 25	@ 2 50
News—Sheets, mill	4 1/2	@ 4 1/2	Folders News (over issue)	2 00	@ 2 10
No 1 Manila	4 1/2	@ 5	Old Newspaper	1 85	@ 2 10
No 1 Fiber	5 1/2	@ 5 1/2	Mixed Papers	1 75	@ 2 00
No 2 Manila	4 1/2	@ 5	Straw Clippings	1 75	@ 2 00
Butchers' Manila	4	@ 4 1/2	Binders Clippings	1 75	@ 2 00
No 1 Kraft	7	@ 7 1/2	Kraft	2 60	@ 2 75
No 2 Kraft	6 1/2	@ 7	New Kraft Cuts	2 70	@ 2 85
Wood Tag Boards	4 1/2	@ 5	Roofing Stock f o b		
Screenings	3	@ 4	Chicago, Net Cash—		
Boards, per ton—			No 1	26 00	@ —
Plain Chip			No 2	24 00	@ —
Solid News			No 3	22 00	@ —
Manila Lined			No 4	22 00	@ —
Chip			All quotations withdrawn		
Container Line—					
85 Test					
100 Test					

PHILADELPHIA

(FROM OUR REGULAR CORRESPONDENT)

Paper			Best Tarred 1 ply		
F o b. Phila			(per roll)		
Bonds	10	@ 60	Best Tarred, 2 ply	1 00	@ 1 15
Ledgers	15	@ 40	Best Tarred, 3 ply	1 50	@ 1 65
Writings—					
Superfine	15	@ 20	Bagging		
Extra fine	12	@ 22	F o b. Phila		
Fine	20	@ 30	Gunny No 1—		
Fine, No 2	20	@ 25	Foreign	1 25	@ —
Fine, No 3	15	@ 20	Domestic	1 20	@ 1 25
Book, M F	06	@ 11	Manila Rope	5 00	@ 6 25
Book, S S & C	08	@ 15	Sisal Rope	75	@ 80
Book Coated	08	@ 15	Mixed Rope	1 75	@ 1 80
Coated Lithograph	10	@ 15	Scrap Burlaps	1 00	@ 1 25
Label	08	@ 15	Wool Tares heavy	2 50	@ 2 75
News	05	@ 07	Mixed Strings	75	@ 80
No 1 Jute Manila	12	@ 13	No 1, New Lt. Bur	1 75	@ 2 00
Manila Sul, No 1	08	@ 10	lap		
Manila No 2	07 1/2	@ 08	New Burlap Cut	1 75	@ 2 10
No 2 Kraft	—	@ 10	Old Papers		
No 1 Kraft	—	@ 11	F o b. Phila		
Common Bogus	02 1/2	@ 03	Shavings—		
Straw Board	75 00	@ 85 00	No 1, Hard	4 00	@ 4 25
News Board	65 00	@ 70 00	White		
Chip Board	62 50	@ 67 00	No 2, Hard	3 50	@ 3 75
Wood Pulp Board	1 25	@ 1 50	No 1 Soft White	3 60	@ 3 75
(Carload Lots)			No 2 Soft White	2 00	@ 2 25
Binder Boards—			No 1 Mixed	1 60	@ 1 75
Per ton	75 00	@ 80 00	No 2 Mixed	1 25	@ 1 50
Carload lots	75 00	@ 80 00	Tarred Felts—		
Regular	48 00	@ 50 00			
Slaters	54 00	@ 56 00			

-(Continued on page 74)

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JANUARY 27, 1923

SUMMARY

News print 2 607 rolls
Wrapping paper 41 cs
Parchment paper 7 cs
Photo Paper 25cs
Packing paper 2 843 rolls 1 056 bbls 22 bls 459 cs
Surface coated paper 273 cs
Wall paper 26 bls 16 cs 1 809 rolls
Hangings 55 bls 10 cs
Cigarette paper 142 cs
Writing paper 58 cs
Straw paper 221 rolls
Tissue paper 2 cs
Printing paper 39 cs
Drawing paper 42 cs
Filter paper 8 cs
Blue print paper 11cs 37 rolls
Miscellaneous paper 11 529 rolls 4 410 bls 311 cs

CHARTER PAPER
Rose & Frank, Limestone County, Havre 30 cs
P. I. Schmeitner, Syria, Marseilles, 112 cs

PAPER HANGINGS
A. C. Dodman, Jr., Inc., Liverpool 10 bls
W. H. S. Lloyd & Co., Dikarim, London 45 bls

WALL PAPER
W. H. S. Lloyd & Co., by same 10 cs
A. Murphy & Co., Celtic, Liverpool 2 bls
A. Murphy & Co., Bercang, Liverpool 4 bls
A. C. Dodman, Jr., Inc., by same 9 bls
A. C. Dodman, Jr., Inc., by same 9 cs
I. C. Praser Co., Kroonland, Antwerp, 1 809 rolls
A. C. Dodman, Jr., Inc., by same 11 bls
A. C. Dodman, Jr., Inc., by same 7 cs

SURFACE COATED PAPER
P. C. Zuhlke, Kroonland, Antwerp, 194 cs
Defender Photo Supply Co., York, Bremen, 79 cs

PACKING PAPER
Republic Bag & Paper Co., York, Bremen 46 rolls
Republic Bag & Paper Co., Gaasterdyk, Rotterdam 527 rolls
C. K. MacAlpine & Co., by same 600 bbls
C. K. MacAlpine & Co., Rotterdam 450 bbls
Irving Nat'l Bank, Caucasus, Antwerp, 22 bls
Burn & Wachenheim, Edgell, Rotterdam, 450 cs
Republic Bag & Paper Co., by same 2 000 rolls
I. B. Vandergrift & Co., Kroonland, Antwerp 9 cs

PHOTO PAPER
Cavert Co. of America, Kroonland, Antwerp 28 cs

PARCHMENT PAPER
Wilkinson Bros & Co., Inc., Independence Hall, Rotterdam 41 cs

NEWS PRINT
Wilkinson Bros & Co., Inc., Galileo, Hull 300 rolls
Chemical Nat'l Bank, Orbita, Hamburg, 855 rolls
News Print Paper Corp., Malmen, Gefle 201 roll
M. Gottesman & Co., Inc., by same 733 rolls
Chemical Nat'l Bank, Gaasterdyk, Rotterdam 439 roll
Chemical Nat'l Bank, King City, Hamburg 79 rolls

FILTER PAPER
I. Th. Caven, Syria, Marseilles 56 cs
F. C. Stuype, by same 2 cs

STRAW PAPER
A. Van I., Rotterdam, Rotterdam, 221 rolls

TISSUE PAPER
Meadow, Wye & Co., Celtic, Liverpool 2 cs

PRINTING PAPER
B. I. Drakenfeld & Co., Celtic, Liverpool, 37 cs
Oxford University Press, by same 2 cs

DRAWING PAPER
Kenuff & Esser, Mt. Clay, Hamburg 39 cs
H. Reeve Angel & Co., Dikarim, London, 3 cs

BLUE PRINT PAPER
H. Reeve Angel & Co., Dikarim, London, 8 cs
Kenuff & Esser, Mt. Clay, Hamburg 11 cs
Kenuff & Esser, by same 37 rolls

FILTER
Chemical Nat'l Bank, Mt. Clay, Hamburg 2 113 rolls
Chemical Nat'l Bank, by same 171 bls
Wilkinson Bros & Co., Inc., Oscar II, Trondhjem 1 330 rolls
Wilkinson Bros & Co., Inc., by same 403 bls
M. Winter, Inc., by same 230 bls
M. Winter, Inc., by same 255 rolls
Melby, Kuttroff & Co., by same 1 207 rolls
Melby, Kuttroff & Co., by same 159 bls
J. P. Heffernan Paper Co., by same 549 bls
Melby Kuttroff & Co., Oscar II, Christiania 47 bls

Melby, Kuttroff & Co., by same 107 rolls
Fernstrom Paper Co., Orbita, Hamburg, 23 bls
Bendix Paper Co., by same 232 rolls
Republic Bag & Paper Co., by same 480 bls
Blauvelt, Wiley Paper Mfg Co., Assyria, Glas row 2 bls
W. F. Etherington & Sons, by same, 30 cs
F. L. Kraemer & Co., Resident Garfield, London, 3 bls
Burn & Wachenheim, Chicago, Havre, 29 bls
Japan Paper Co., Chicago, Havre 4 cs
Y. W. Lyon & Co., by same 5 bls
Whiting & Patterson, by same 3 cs
De Manduit Paper Corp., by same 144 cs
Fernstrom Paper Co., King City, Hamburg, 2 717 rolls
Fernstrom Paper Co., by same Hamburg 12 bls
Republic Bag & Paper Co., by same 974 bls
Ladenburg, Thalman & Co., by same 328 bls
Chase Nat'l Bank, by same 687 rolls
Chase Nat'l Bank, by same 102 bls
D. S. Walton & Co., by same 57 rolls
Irving Nat'l Bank, by same 162 rolls
Irving Nat'l Bank, by same 205 bls
American Exchange Nat'l Bank, by same 89 bls
Pursons & Whittemore, President Roosevelt, Bremen 826 rolls
Irving Nat'l Bank, by same 789 rolls
Wilkinson Bros & Co., Inc., by same 1 279 rolls
Japan Paper Co., Rotterdam, Rotterdam 78 cs
Japan Paper Co., Kroonland, Antwerp 20 cs

RACS, BAUMING, ETC
I. J. Keller Co., Inc., Caucasus, Antwerp 248 bls
Irving Nat'l Bank, by same 704 bls
Bank of America, by same 105 bls
Guaranty Trust Co., Ansaldo VIII, Genoa 46 bls
Kulway Supply Mfg. Co., by same 167 bls
Royal Manufacturing Co., by same 98 bls
Avies, Oddy & Co., Sataria, Pomilav 558 bls
Liquitable Trust Co., Galileo, Newcastle 84 bls
Castle & Overton, Gaasterdyk, Rotterdam 14 bls
State Bank, by same 94 bls
M. O'Meara Co., by same 102 bls
Liquitable Trust Co., London, Mariner, London 71 bls
Castle & Overton, Archimedes, Manchester 28 bls
Everett Hauxy & Co., by same 8 bls
Kutzenstein & Keene, Inc., by same 19 bls
Kutzenstein & Keene, Inc., by same 133 bls
Kutzenstein & Keene, Inc., Virginia, London 195 bls
Kutzenstein & Keene, Inc., Edgell, Rotterdam 138 bls
Kutzenstein & Keene, Inc., by same 241 bls
State Bank, by same 28 bls
Royal Manufacturing Co., by same 14 bls
Reis & Co., Inc., by same 100 bls
S. Silberman, by same 53 bls
I. Butterworth & Co., by same 131 bls
Castle & Overton, by same 141 bls
Guaranty Trust Co., Assyria, Glasgow 22 bls
F. J. Keller Co., Inc., Chicago, Havre 148 bls
F. J. Keller Co., Inc., by same 235 bls
Mechanics & Metals, Nat'l Bank, by same, 102 bls
Mechanics & Metals, Nat'l Bank, by same, 351 bls
Liquitable Trust Co., by same 135 bls
American Exchange, Nat'l Bank, by same, 204 bls
Davies Turner & Co., by same 278 bls
Columbia Bank, by same 64 bls
W. Schull & Co., by same 85 bls
Nat'l Shawmut Bank, by same 6 bls
Castle & Overton, King City, Hamburg 37 bls
Irving Nat'l Bank, by same 41 bls
State Bank, President Roosevelt, Bremen, 171 bls
Kutzenstein & Keene, Inc., Reijo Maru, Mar seilles 220 bls
M. O'Meara Co., Rotterdam, Rotterdam 121 bls
Irving Nat'l Bank, Kroonland, Antwerp, 132 bls
F. J. Keller Co., Inc., F. Tausig, Kobe, 10 bls

OLD ROPE
F. I. Keller Co., Inc., Galileo, Newcastle, 302 bales.

Brown Bros & Co., Galileo, Hull, 141 coils
Brown Bros & Co., Gaasterdyk, Rotterdam, 66 coils
Brown Bros & Co., Boston City, Bristol, 77 coils
N. Y. Trust Co., President Roosevelt, Bremen, 107 coils

WOOD PULP
M. Gottesman & Co., Inc., Teresa, Leobenico, 4 000 bls
Johannesson, Wales & Sparre, Inc., Oscar II, Copenhagen, 3,078 bls
Papet Horton & Co., Inc., Malmen, Gefle, 11,250 bls
Wood Pulp Trading Co., Ltd., Yorck, Bremen, 2,720 bls
Wood Pulp Trading Co., Ltd., Kongsavn, Norway, 546 bls
M. Gottesman & Co., Inc., King City, Hamburg, 4 924 bls
Nilsen, Lyon & Co., Inc., by same, 402 bls, 68 tons
Nat'l City Bank, by same 3,200 bls, 406 tons
Nat'l City Bank, President Roosevelt, Bremen, 2 185 bls, 364 tons
Castle & Overton, Edgell, Rotterdam, 262 bls, 58 tons

WOODFLOUR

The Hansa Co., King City, Hamburg, 391 bags, 10 000 kilos
A. Klipstein & Co., Orbita, Hamburg 432 bags
CASHIN
A. Klipstein & Co., King City, Hamburg, 8J bags, 4 947 kilos
A. Klipstein & Co., Pan America, Buenos Aires, 417 bags
Kalbfleisch Corp., by same 2 500 bags
J. M. Duché & Sons, by same 117 bags
Atterbury Bros, Inc., by same 1 057 bags
A. Klipstein & Co., Sataria, Bombay, 400 bags
CHINA CLAY
U. S. Stamping Co., Boston City, Bristol, 243 bags
C. B. Richard & Co., by same Bristol 25 casks

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 27, 1923

A. L. Diamant Co., Kroonland, Antwerp, 2 cs
F. J. Keller Co., Inc., Ansaldo VIII, Genoa, 32 bls
D. D. Murphy, Pipestone County, Havre 665 bls
D. M. Hicks, Ldc, Hull, Rotterdam 56 bls
S. Birkenstein & Sons, by same 263 bls
F. Butterworth & Co., by same 78 bls
Reis & Co., Inc., by same 78 bls
Castle & Overton, by same 99 bls
Castle & Overton, Birmendyk, Rotterdam, 527 bls
F. J. Keller Co., Inc., by same 202 bls
L. J. Keller Co., Inc., West Isleta, Newcastle, 19 bls
F. J. Keller Co., Inc., Eastern Dawn, Rotterdam, 79 bls
Castle & Overton, Edgell, Rotterdam, 112 bls
wood pulp

BOSTON IMPORTS

WEEK ENDING JANUARY 27, 1923

F. C. Melby, Malmen, Gefle 319 bls wrapping paper
F. J. Keller, Inc., Lglantine, Havre, 207 bls
Papet Horton & Co., Inc., Malmen, Gefle, 9,500 bls wood pulp
Bulkley, Dunton & Co., by same 3,250 bls wood pulp
M. Gottesman & Co., Inc., Ringborg, Christiania, 1 500 bls wood pulp
Wood Pulp Trading Co., Ltd., by same, 600 bls wood pulp

NEW ORLEANS IMPORTS

WEEK ENDING JANUARY 27, 1923

E. J. Keller Co., Inc., Carplaka, Antwerp, 178 bls bagging

BALTIMORE IMPORTS

WEEK ENDING JANUARY 27, 1923

Wood Pulp Trading Co., Ltd., Ringborg, Christiania, 2 800 bls wood pulp
R. F. Hammond, Inc., King City, Hamburg, 2,400 bls, 309 tons wood pulp

Felt Test—Lowest Cost per Ton

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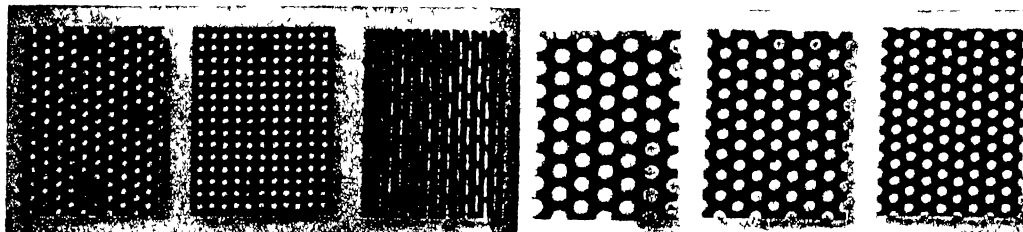
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Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
TUESDAY, JANUARY 30, 1923

BLEACHING POWDER--Chemical dealers of New York report bleach very firm, in keeping with the general trend of other markets supplying the paper manufacturing trade with raw materials. Quoted at 190 to 200 cents a pound, works, bleaching powder has held in excellent demand the lower price only applying to one and two thousand ton quantities.

BLANC FIXE--No changes of note have occurred in the blanc fixe market in the past week, quotations remaining in the neighborhood of \$85 to \$90 per ton on the dry product and \$45 to \$50 on the pulp.

CAUSTIC SODA--Holding to its schedule quotation of 2.50 cents a pound, caustic has retained its firm position. Snow blockades are reported to have hampered New England shipments to some extent, but in general transportation conditions have improved.

CHINA CLAY--Dealers state that all grades of clays are moving well as a result of the enhancement which has occurred in the paper industry during the present month. Good grades of coating clay are listed from \$14 to \$19, unwashed domestic holding at \$9.50 to \$12.50, washed at \$12.50 to \$15.50 and imported at \$16 to \$22.50.

CASIN Due to the fact that all importers and domestic producers are oversold on casin, practically none of the commodity may be had for spot shipment. For small tonnages dealers are quoting prices ranging from 22 to 25 cents a pound while on larger contract orders the price averages 21 and 22 cents.

LIQUID CHLORINE Demand for chlorine in 100 pound and ton containers has increased materially in the past month, current quotations averaging 6.00 cents a pound, f o b producers plant.

PAPERMAKERS' GLUE Glue has enjoyed a considerable activity in recent weeks, the consistencies of hide glue used for tub sizing in the paper industry being quoted at 13 to 20 cents a pound, depending upon the grade.

ROSIN Rosin dealers report a hardening tendency in the market for grades L, F and G of the naval store, with quoted prices hovering in the vicinity of 5.80 to 5.90 cents a pound, ex-dock, New York, in barrels of 280 pounds. Prices at Savannah Ga. are approximately \$1 per cwt. less.

SALTCAKE--Due to the current activity in various chemical pulp markets, saltcake has been in exceptional demand during recent weeks and prices are holding very firm. Acid cake is listed at \$26 to \$28 per ton while chromic cake is in a strong position at \$24.

SODA ASH--No variations from the schedule listing of 120 cents a pound has made itself evident in the soda ash branch of the chemical industry, and from the continuance of steady demand from the paper manufacturing trade it is felt that this price will not be revised in any other than an upward direction.

STARCH--Considerable increases in starch sales have been recorded by producers of the corn product since the first of the year. Paper mills are buying freely and prices have held steady to firm throughout the past weeks trading. Powdered starch in barrel quantities is quoted at 3 cents a pound, works, while bag lots of this grade list at 272 cents. The papermakers' grade of starch still holds at 310 cents and 282 cents for these respective packings.

SULPHATE OF ALUMINA--Alum has reacted to the general enhancement in the paper industry, prices hardening to correspond with the increased demand. Commercial sulphate of alumina is now quoted at 1.50 to 1.75 cents a pound, works, and iron free at 2.55 to 2.80 cents.

SULPHUR--The January buying season has not served to alter brimstone quotations from their fixed level of \$18 to \$20 per ton, but producers report an appreciable enhancement in activity since the start of the new year. Quoted prices are exceedingly firm.

Market Quotations

(Continued from page 71)

Solid Ledger Stock	2.75	@	3.00
Writing Paper	2.50	@	2.75
No. 1 Books, heavy	2.25	@	2.50
No. 2 Books, light	1.40	@	1.50
No. 1 New Manila	2.75	@	3.00
No. 1 Old Manila	1.50	@	1.75
Container Manila	1.35	@	1.50
Old Kraft	2.25	@	2.50
Overissue News	1.50	@	1.60
Old Newspaper	1.20	@	1.35
No. 1 Mixed Paper	1.10	@	1.15
Common Paper	1.00	@	1.10
Straw Board, Chip	1.00	@	1.10
Linders Bd., Chip	1.00	@	1.10

Domestic Rags--New			
Price to Mill, f o b Phila			
Shirt Cuttings--			
New White, No. 1	12	@	12 1/2
New White, No. 2	07	@	
Slivers, No. 1	07 1/2	@	07 1/2
New unbleached	10	@	11
Washables	04 1/2	@	
Fancy	05 1/2	@	05 1/2
Cottons--according to grades--			
Blue Overall	05 1/2	@	05 1/2
New Blue	02 1/2	@	02 1/2

New Black Soft.	06 1/2	@	06 1/2
New Light Sec			
onds	02 1/2	@	02 1/2
Khaki Cuttings	11	@	04 1/2
Corduroy	03 1/2	@	04
New Canvass	08 1/2	@	08 1/2
New Black Mixed	04	@	
Old			
White, No. 1--			
Repacked	06	@	06 1/2
Miscellaneous	04 1/2	@	04 1/2
White, No. 2--			
Repacked	03 1/2	@	04
Miscellaneous	03	@	03 1/2
Thirds and Blues--			
Repacked	200	@	2.25
Miscellaneous	185	@	1.90
Black Stockings	2.75	@	3.00
Roofing Stock--			
No. 1	1.35	@	1.40
No. 2	1.25	@	1.30
No. 3	1.15	@	1.20
No. 4	1.15	@	1.20
No. 5A	1.10	@	
B			nominal
C			nominal

BOSTON

(FROM OUR REGULAR CORRESPONDENT)

Paper			
Bonds	08	@	50
Ledgers	08 1/2	@	55
Writings	08	@	42
Superfine	16	@	26
Fine	15	@	18
Books S & S C	07 1/2	@	12
Books M F	06 1/2	@	09 1/2
Books coated	09	@	15
Label	08 1/2	@	13
News sheets	4.75	@	6.00
News rolls	4.50	@	5.75
Manilas--			
No. 1 Manila	\$6.00	@	7.00
No. 1 Liber	06 1/2	@	07
No. 1 Jute	9.00	@	10.50
Kraft Wrapping	07	@	
Common Pugs	3.50	@	3.85

Boards			
(Per Ton Destination)			
Chip	\$70.00	@	--
News Vat Lined	72.50	@	--

Wood Vat Lined	\$80.00	@	--
Pressed News Board	75.00	@	--
Solid News Board	80.00	@	--
S. Manila Chip	75.00	@	80.00
Pat. Coated	90.00	@	95.00

Old Papers

Shavings--			
No. 1 Hard White	4.25	@	4.50
No. 1 Soft White	3.00	@	3.50
No. 1 Mixed	\$1.50	@	1.75
Ledgers & Writings	2.25	@	2.50
Solid Books	2.25	@	2.50
Blanks	1.70	@	1.80
No. 2 Light Books	1.75	@	1.90
Folded News, over			
issues	26.00	@	28.00
Gunny Bagging	85	@	90
Manila Rope	5.75	@	6.00
Common Paper	1.20	@	1.25
Old News	1.30	@	1.40
Old Kraft	2.00	@	2.10

TORONTO

(FROM OUR REGULAR CORRESPONDENT)

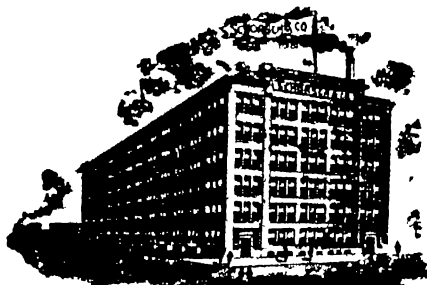
Paper			
(Mill Prices to Jobbers f o b Mill)			
Bond--			
Sulphite	11	@	12 1/2
Light tinted	12	@	13 1/2
Dark tinted	13 1/2	@	15
Ledgers (sulphite)	--	@	13
Writing	09 1/2	@	12
News f o b Mills--			
Rolls (carloads)	3.75	@	--
Sheets (carloads)	--	@	4.50
Sheets (2 tons or over)	--	@	4.75
Book--			
No. 1 M F (car loads)	9.00	@	--
No. 2 M F (car loads)	8.00	@	--
No. 3 M F (car loads)	7.50	@	--
No. 1 S C (car loads)	9.50	@	--
No. 2 S C (car loads)	8.50	@	--
No. 1 Coated and litho	14.00	@	--
No. 2 Coated and litho	13.00	@	--
No. 3 Coated and litho	12.25	@	--
Coated and litho, colored	14.25	@	--
Wrapping--			
Grey	5.00	@	--
White Wrap	5.75	@	--
"B" Manila	6.00	@	--
No. 1 Manila	7.25	@	--
Fiber	7.25	@	--
Kraft, M F	8.00	@	--
M. G	8.15	@	--

Pulp			
(F o b Mill)			
Ground wood	\$40.00	@	50.00
Sulphite easy bleach		@	70.00
ing	60.00	@	70.00
Sulphite news grade	55.00	@	60.00

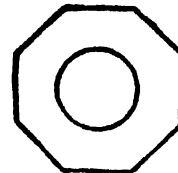
Sulphite bleached	100.00	@	105.00
Sulphate	70.00	@	--

Old Waste Papers

(In carload lots f o b Toronto)			
Shavings--			
White Env. Cut	3.85	@	--
Soft White Book			
Shavings	1.50	@	--
White Blk News	2.15	@	--
Book and Ledger--			
Flat Magazine and Book Stock (old)	2.30	@	--
Light and Crumpled Book Stock	2.15	@	--
Ledgers and Writings			
Solid Ledgers	2.50	@	--
Manilas--			
New Manila Cut	2.15	@	--
Printed Manilas	1.75	@	--
Kraft	2.50	@	--
News and Scrap--			
Strictly Overissue	1.60	@	--
Folded News	1.60	@	--
No. 1 Mixed Papers	1.35	@	--
Domestic Rags--			
Price to mills, f o b Toronto, Per lb.			
No. 1 White shirt cuttings	11 1/2	@	12
No. 2 White shirt cuttings	06 1/2	@	07
Fancy shirt cuttings	06 1/2	@	06 1/2
No. 1 Old whites	04 1/2	@	--
Thirds and blues	2.50	@	2.65
Per cwt.			
Black stockings	2.55	@	--
Roofing stock			
No. 1	1.30	@	--
No. 2	1.05	@	--
Roofing stock			
Manila rope	6.15	@	--
No. 2 ...	1.55	@	--
Gunny bagging	1.05	@	--

The Home of QualityFACTORY
132ND TO 133RD ST & BROOK AVE**PAPER BAGS****Sacks and Specialties**

ESTABLISHED 1901

SCHORSCH & CO.*Manufacturers*This Registered Trade
Mark Octagonon a Paper
Bag Vouches for
Its Good Quality**500 East 133d Street : New York**

The **B** *Quality: It means more than price*
INC PULPS

"Hafslund Bear" "Forshaga"

BLEACHED SULPHITE

"Klarafors"

EASY BLEACHING SULPHITE

STRONG UNBLEACHED SULPHITE**"Hurum" "Bamle"**EXTRA STRONG KRAFT, BLEACHED AND
BLEACHABLE SULPHATE**"Edsvalla" 50% MOIST "Dejefors" DRY**
WHITE SPRUCE—GROUND WOOD*Tonnage available on dock for prompt shipment***THE BORREGAARD CO., INC.****200 FIFTH AVENUE****NEW YORK CITY**

Clay
300 tons daily
AMERICAN MADE FOR AMERICAN TRADE

Over forty years experience in the clay industry has naturally resulted in the adoption of the most scientific methods and practices

This record of achievement is your guaranty of *clay* of absolute uniformity at prices consistent with M-E quality and service

Let us submit samples and quote you

THE MINER-EDGAR CO.
MECCO 110 WILLIAM ST.,
NEW YORK



33 WEST 42ND ST., NEW YORK

Ecco Clays 500,000 Tons Annually

DELIVERIES FROM PRODUCER INSURE AND
ENABLE YOU TO PRODUCE UNIFORM PAPER

Highest Grades Filler and Coating Clays

WANT AND FOR SALE ADVERTISEMENTS

HELP WANTED

WANTED—Good machine tender experienced on cylinder machine making old rope paper. Steady work for night man. Address: Box 5835 care Paper Trade Journal. F-1

WANTED—Two back tenders for book mill located near Boston, three tours. Address: Box 5847 care Paper Trade Journal. F-5

WANTED—Machine Tenders. Two practical machine tenders for cylinder machine. Familiar with Water Finish Tough check. Married men preferred. Give references and where last employed. Address: Box 5839 care Paper Trade Journal. F-22

WANTED—Cylinder Mill can use experienced cylinder operator. Foster Engineering. Familiar. Cameron Windermere, Salesman. Familiar and having had practical experience with converting and jobbing. Trade. Address: Box 5840 care Paper Trade Journal. F-1

WANTED—General Experienced Paper Mill Man familiar with manufacturing of paper and able to handle men. Knowledge of Chemistry and materials used in paper making such as pulp, alkali, size, color, etc. Running mill is also some knowledge of engines and electrical equipment. Address: Box 5841 care Paper Trade Journal. F-1

PAPER SALESMAN—Experienced in handling good grades of bonds, linen and waxes. One who can influence quantity business on established papers. State experience and salary desired. Address: Box 5846 care Paper Trade Journal. F-1

WANTED—Experienced millwright for twenty ton sulphite plant, sober and married. State experience and wages expected. Address: Box 5848 care Paper Trade Journal. F-8

SALESMAN WANTED with established trade in paper, paper boards or twine in or adjacent to New York City. Address: Credit Notch Paper Co. Inc. 101 103 Varick Street New York. F-22

WANTED—Man thoroughly experienced in manufacturing Duplex Paper. Address: Box 5845 care Paper Trade Journal. F-8

WANTED—Experienced cylinder machine tenders, back tenders and beater engineers for roofing mill located in the East. 3 tours. Wages: Machine tenders \$50 per hour, back tender \$60, beater engineer 75¢. No labor trouble. Send experience and references in first letter. Address: Box 5724 care Paper Trade Journal. F-1

WANTED—A first class envelope machine adjuster. Smiths machines to take full charge of 8-machine plant on Coast. State experience and salary wanted. All replies confidential. Address: Box 5772 care Paper Trade Journal. F-2

A ROOFING MILL located in the East requires experienced American Machine Tenders, Back Tenders and Beater Engineers. High wages paid but only experienced men need apply. Address: Box 5791 care Paper Trade Journal. F-1

WANTED—One boss machine tender for three machine mill, two Fourdrinier and one cylinder. Make manila fibres specialties and high grade tag and test boards. Eight hour tour, steady work, good living conditions. State experience and give references. Address: Box 5793 care Paper Trade Journal. F-1

WANTED—One Fourdrinier machine tender. Make fibres manila and specialties. Eight hour tour. Steady work, good living conditions. State experience and give references. Address: Box 5794 care Paper Trade Journal. F-1

HELP WANTED

WANTED—Good back tender on slow running Fourdrinier machine. Must look after winder 500 per hour, twelve hour day. Address: Box 5795 care Paper Trade Journal. F-2

WANTED—A good paper mill superintendent to make Kraft paper from Southern pulp. Apply by letter only to the Hummel Ross Fibre Corporation, Hopewell, Va. F-2

SITUATIONS WANTED

SUPERINTENDENT would like to hear from parties needing high grade man with experience making all grades Tissue, Book Bond Covers, Kraft Manilas, Colored Specialties, Board Bogus, Wrapping on Fourdrinier, Harper Yankee and Cylinder. Would consider going with small Cylinder Mill to make Special Wrapping where an interest could be obtained in the future. Address: Box 5842 care Paper Trade Journal. F-1

PURCHASING AGENT with 8 years experience in Paper and Fibre Industry capable of assuming full charge of Purchasing Department. Best of references. Address: Box 5843 care Paper Trade Journal. F-1

RAG MAN with the best of experience. Has been with some of the best mills in the country. Would like to connect with a good warehouse concern. Address: Box 5844 care Paper Trade Journal. F-8

CHEMIST—Young man experienced in Sulphate Pulp and Paper Making, now employed. Available on liberal notice. Good references. Address: Box 5845 care Paper Trade Journal. M-29

TECHNICAL EXECUTIVE, now employed, desires change. Five years experience chemical development in pulp and paper industry. Twenty seven married, excellent references. Capable of assuming full charge of technical work. Address: Box 5847 care Paper Trade Journal. F-22

SUPERINTENDENT desires position. 18 years experience in the manufacture of tissues all grades, equally efficient in either wood or stock. High grade man in wadding tissues, all grades twines and carpet fibres for twisting. Kraft papers of quality and strength. Thoroughly understands the converting of crepe and waxed papers. A No. 1 on color. References. Address: Box 5849 care Paper Trade Journal. F-22

WOOD PULP SALESMAN, Sales Manager and Executive thoroughly familiar all grades foreign domestic pulps, also English domestic clays, caseln and general mill supply business. His wide acquaintance, exact knowledge mills requirements, both East and West, nine years actual selling experience, open for position March 1. Address: Box 5850 care Paper Trade Journal. F-15

BOSS BEATERMAN wants position. Accustomed to nearly all grades. A good color man. Can furnish best of references. Address: Box 5823 care Paper Trade Journal. F-8

WANTED—Position is night watchman in a paper mill by an old machine tender. Wants steady work. Address: Box 5817 care Paper Trade Journal. F-8

BOOKKEEPER, with twenty years' experience, five years secretary in board mill, age thirty-eight married. Good habits, desirable connection with good concern. Best of references. Address: Box 5818 care Paper Trade Journal. F-1

CUT YOUR SELLING COSTS. Manufacturers agent, well known in Coating and Paper Mill Trade will sell for producers the following lines: Chemicals, Colors, Clay, Blanc Fixe, Satin White, Caseln, Glue, Rosin, Starch, Felts, Machine Wires and Brushes. New England territory. Submit your propositions now for results. Address: Box 5831 care Paper Trade Journal. F-8

SITUATIONS WANTED

FACTORY AUDITOR seeks new position, 10 years' experience in plant manufacturing prepared roofing, saturated flooring felt and paints. Capable of starting new systems, all figuring cost estimate. Address: Box 5841 care Paper Trade Journal. F-1

FACTORY MANAGER, 10 years' experience supervising the manufacture of prepared roofing and building papers, also saturated flooring felt, desires position. Have knowledge of the manufacture of paper felt and also selling experience. Address: Box 5821 care Paper Trade Journal. F-1

SUPERINTENDENT now employed would like to make a change. Expert on Superfine board (non-curling) cover, writing book, light weight specialties. Address: Box 5823 care Paper Trade Journal. F-1

SUPERINTENDENT of wide practical experience in the manufacture of fine grades of tissue, glassine, manila and all light weights seeks connection with good mill where ability is appreciated. Wide knowledge of repairs steam plant and general upkeep. Address: Box 5821 care Paper Trade Journal. F-1

BOSS FINISHER, at present engaged on mill making light weights, desires to make change. Understands all products from tissue to board and all finishing room machinery. Address: Box 5822 care Paper Trade Journal. F-1

GENERAL SUPERINTENDENT or manager with wide practical experience in all grades of pulp and paper, good organization and efficient executive will be open for similar position in near future. Best references assured. Address: Box 5824 care Paper Trade Journal. F-1

PAPER MAKER of ability. Eighteen years manufacturing experience, several years jobbing experience, desires to connect with a good reliable house as manager or buyer. Address: Box 5827 care Paper Trade Journal. F-1

YOUNG SWEDISH PULP ENGINEER, college graduate 29 years old married, having extensive experience from Scandinavia sulphite mills thoroughly familiar with construction and enlargements and perfectly capable in modern plant operating, desires position in U. S. A. or Canada. Address: Box 5826 care Paper Trade Journal. F-1

ORGANIZER and producer, man 38 years for 20 years with large coarse paper house near New York City, his experience covering all departments from shipping to buying is looking for a concern where his services could be of value. Address: Box 5825 care Paper Trade Journal. F-1

A CHIEF MILLWRIGHT or master mechanic is available for job with large company. Has a very successful record and can show excellent references. Is a graduate Mechanical Engineer and a producer. Address: P. O. Box 166 Middletown, Ohio. F-1

NIGHT BOSS or boss machine tender open for a position or will accept position as machine tender where there is a chance for advancement in a Board Mill. Married, steady and can furnish first class references. Address: Box 5832 care Paper Trade Journal. F-1

SUPERINTENDENT desires change. Not employed in Specialty Mill. Have good conceptions of business ability to develop ideas and one who is tactful and competent in handling help, and familiar with cylinder and Fourdrinier machines. Address: Box 5833 care Paper Trade Journal. F-1

MECHANICAL ENGINEER with several years' practical experience in ground wood sulphite and newsprint open for engagement. Best of references. Address: Box 5800 care Paper Trade Journal. F-1

PITTSBURGH PAPER JOBBER, established thirteen years, successful in having established a number of prominent lines now interested in securing mill connection on Nos. 1 and 2 and M. G. Kraft, dry and water finish fibre, butchers fibre and manila white news, paper specialties, etc. Address: Box 5802 care Paper Trade Journal. F-1

HELP WANTED

WANTED

Master Mechanic, capable of organizing Millwright crews, reading blue prints for installing equipment and machinery in new News Print paper mill, and to take charge of maintenance when mill is in operation. Only hard worker need apply. Address, Box 5816, care Paper Trade Journal F-25

WANTED

A wide awake Mechanical Engineer with selling ability to travel for a well established firm manufacturing Refining machinery for Pulp and Paper Mills

Must be thoroughly familiar with the operating of tub heaters and refiners in making all kinds of Pulp and Paper

Excellent opportunity for the right man. State age, reference, full experience, etc. Address Box 5536 care Paper Trade Journal tf

SITUATIONS WANTED

EXPERIENCED SULPHITE MAN wishes position, having run some of the largest mills in United States and Canada for manufacturing bond news and book papers. Satisfaction guaranteed with both mill and men. Address Box 5508, care Paper Trade Journal F-9

BOXBOARD—A man thoroughly experienced in the manufacture of high grade box boards including strawboard and light straw would make change. 10 years present position, especial ability in construction and maintenance as well as operation. Best of results in handling help. Can furnish best of references. Address, Box 5720 care Paper Trade Journal F-15

PAPER SALESMAN New York City, who can produce large amount of business would like connection with Paper House or organization, having good mill facilities. Drawing account on commission basis. Address, Box 5596, care Paper Trade Journal tf

POSITION WANTED by a party thoroughly experienced in the exporting of paper to Cuba, Mexico, South America, Japan, China and Australia and having an intimate knowledge extending over 20 years in the importing of all kinds of paper from England, France, Germany, Scandinavia and Finland together with a thorough knowledge of English and German and a working knowledge of French and Spanish. Location in this country no object. Address, Box 5619, care Paper Trade Journal. tf

POSITION as superintendent or assistant in the envelope or paper goods line. Forty years of age, twenty years' practical experience in the manufacturing, office estimating and buying, understanding all branches of the envelope line. Address, Box 5777, care Paper Trade Journal. F-3

SUPERINTENDENT wishes position 18 years' experience on all the better grades of combination board. An expert on high test container. Can put all equipment in shape to get quality and production. Can furnish first class references. Address, Box 5738, care Paper Trade Journal. F-1

NOTICE

When replying to advertisements which have a BOX NUMBER always make certain you have the correct Box Number on the address. This will insure your letter being sent to the right advertiser.

FOR SALE

FOR SALE—6 Farnum Drives. Complete Triple-Deck frames for 44 Dryers. Will arrange terms to suit. Chesapeake Paper Board Co., Baltimore, Maryland. tf

FOR SALE—Deane Duplex Fire Pump, 14x 8 1/2x10, capacity 600 gallons per minute. Address, Box 5482, care Paper Trade Journal. tf

FOR SALE—Machine for splicing, coating and rewinding. This machine is new has not been used. Takes from 18 inches to 48 inches wide. Will sell at a bargain. Address, Box 5780 care Paper Trade Journal. F-9

FOR SALE—One 800-lb Horne Beater, Wood Tub 48-inch Diameter Roll, 48-inch Bars and Bed Plate. Bars and Plate practically new. Address The Fearless Paper Co. Dayton Ohio. F-8

FOR SALE—56-inch Ream Trimmer Smith & Winchester Undercut completely overhauled by manufacturer and used only slightly since. Whiting Plover Paper Company, Stevens Point Wisconsin. F-1

FOR SALE—90 inch Mayer Waxing Machine in first class condition. Address, United States Foli Company 30th and Grand Avenue Louisville Kentucky. F-1

Knockout Bargains

BRAND NEW AND USED EQUIPMENT

B & W Boilers

B & W Sterlings

Keeler Water Tubes

Engine and Turbo Sets

Digesters

Shevelin Screens

Kelly & Sweetland Presses

See our ad partial listing, page 71, last week's issue, Paper Trade Journal

Technical Economist Corp.

2 Rector Street New York City

Telephone
Whitehall 5243

Cable
Hercules
Feb 1

SHARTLE

can fill your requirements in used or new machinery

THE SHARTLE BROTHERS
MACHINE CO.

Middletown

Ohio

TF

WANTED—Cast iron dryers, diameter 36" x 48 to 54" face. O. S. Kirkeby Room 706 61 Broadway New York. tf

WANTED—Spiral wound tube machines for making toilet paper cores new or second hand. Address, Box 5829, care Paper Trade Journal. F-8

WE CAN OFFER an ideal pulp mill location. Reasons 1st, There are 11 millions cords of pulp wood in a radius of 30 miles and therefore cheap raw material. 2nd, Abundance of non-union labor at reasonable prices. 3rd, Central location with abundance of undeveloped water power. 4th, The splendid climatic conditions, pure water, low cost of living and labor conditions offer a pulp mill location without parallel in the United States. If you want further information concerning this location write promptly a letter addressed to Box 5809 care Paper Trade Journal. F-2

WANTED—USED EQUIPMENT—2 complete 10-ton Fourdrinier Paper Mills or separate parts for same. One 75 to 100 h.p. Variable speed engine. W. V. Sullivan. Call Building San Francisco California. F-22

USED PAPER MACHINES

Wanted a paper machine for making 6 to 8 tons of wrapping paper, a machine for making 25 to 35 tons of newsprint and a machine for making 3 to 5 tons of toilet paper. Replies should bear full particulars and lowest price. Maynard Company, 35 Warren Street New York. F-8

Paper Machines

One Pusey & Jones 80 trim Fourdrinier (new century shake) two presses, 26 dryers, one stack of calendars, reel drum winder, Marshall drive.

One Cylinder Tissue Machine 64" trim, cylinder mild, one press, 11 dryers 42"x68", calendar, slitter and winder, Marshall drive.

Two Fourdrinier
Parts

Pusey & Jones with new century shake. Take wire 112"x65 ft and 98"x60 ft.

For Sale by

Frank H. Davis Company

175 Richdale Ave.,
Cambridge 40, Mass.

Trade Mark Department

CONDUCTED BY NATIONAL TRADE-MARK CO, WASHINGTON, D. C.

The following are trademark applications pertinent to paper and pulp filed pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister building Washington D. C. or Bush building, 130 West Forty second street, New York, trademark specialists.

As an additional service feature to its readers, the PAPER TRADE JOURNAL gladly offers to them an advance search free of charge, on any mark they may contemplate printing or registering.

STYPE—No 168,386 Fred C Stype, New York For wrapping paper, waxed, parchment, gummed, glissine tissue, book, etc

STYPE—No 168,385 Fred C Stype New York For wrapping paper, wax, parchment, gummed book, tissue paper, etc

BROWN CORDUROY STRIPED—NIBROC KRAFT—No 168,022 Brown Company, Portland Me For wrapping paper

SECURITY—No 171,353 Fort Howard Paper Company, Green Bay, Wis For toilet paper, paper napkins, towels and tablecloths

TUSCAN—No 172,347 Peninsular Paper Company, Ypsilanti, Mich For cover paper

COLONIAL—No 172,346 Peninsular Paper Company Ypsilanti, Mich For cover paper

ONIMBO—No 172,345 Peninsular Paper Company Ypsilanti, Mich For cover paper

INTERNATIONAL COVERS—No 142,385 Chemical Paper Manufacturing Company Holyoke Mass For cover paper

NIBROC KRAFT—No 169,021 Brown Company Portland Me For wrapping paper

T Co—No 170,066 The Tissue Company Saugerties, N. Y For crepe paper

C S—No 171,288 Sewell-Clapp-Envelopes, Chicago For envelopes

TRANSIT—No 172,328 Fox River Paper Company, Appleton, Wis For writing paper

To Manage Chain Belt Co.'s Chicago Office

The Chain Belt Company, Milwaukee, announces the appointment of Fitch S Bosworth as manager of the Chicago office, effective January 1, 1923. Mr Bosworth has been in charge of the Chain Belt Company's St Louis office for the last three years and has specialized on chain and conveying engineering problems. With him will be associated Raymond X Raymond, who for several years has been connected with the Export Sales Department in Milwaukee. Thomas I Scannell, formerly of the Chicago office, has been placed in charge of the St Louis office.

The company manufactures Rex Chain, conveying machinery, traveling water screens, and concrete mixers.

German Paper Prices Higher in February

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C. January 31, 1923—A dispatch received by the Department of Commerce from Commercial Attache Herring Berlin state that effective January 1 the inland price of print paper in Germany is quoted at 560 marks per kilogram. The paper industry is reported to be less active and exporters are complaining against the high export tax.

A. A. Dill Leaves Eagle Paper Co

JOHN, Ill, January 30, 1923—A. A. Dill has resigned as manager of the Eagle Paper Company at this place.

The Paper Trade Journal

is the largest circulated and best read medium in its field

A circulation greater than the circulations of all other mediums combined

The only medium a member of A. B. C.

To Leather Board and Paper Manufacturers

For Sale as a going concern with possession in the Midland Counties of England, close to a large Town, and near an important junction of a main line Railway.

Freehold Steam and Water Power Paper Board Making Mills, with Offices, Dwelling House and Land.

Further particulars of H & F Tarratt & Sons, Auctioneers and Valuers, 16 Market Street, Leicester, England.

The Shartle Bros. Machine Co.

Middletown, Ohio



FREDERICK L. SMITH

21 EAST 40TH STREET, NEW YORK
**PULP AND PAPER MILL
 ENGINEER**

GEORGE F. DREW

MILL ARCHITECT AND ENGINEER
 Consulting and Operating
 BRUNSWICK, MAINE
SPECIALTY Pulp, Paper and Saw Mills
 Cotton, woolen, worsted, cordage, silk mills, and their equipment.
 Appraisals, adjustments.

V. D. SIMONS

Industrial Engineer

Pulp and Paper Mills, Hydro-Electric and Steam Power Plants,
 Electrification Paper Mill Properties

39 S. La Salle St.

CHICAGO

THOMAS L. TOMLINES & SON

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ASSOC. M. AM. SOC. C. E., 317 319 CITY BANK BLDG.,
 M. AM. SOC. M. E. SYRACUSE, N. Y.
 Paper, Pulp and Fibre Mills, Hy Steam Power Plants, Plans and
 draulic Developments, Hydro Specifications Efficiency
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200 FIFTH AVENUE, NEW YORK CITY

Paper, Pulp and Fibre Mills, Including Building and Complete
 Mechanical Equipment, Water Power Development, Dams,
 Storage Reservoirs and Other Hydraulic Structures,
 Examinations, Reports, Estimates of Cost, Designs,
 Specifications Valuations

WILLIAM T. FIELD

Consulting Engineer

236 Broadway
 New York, N. Y.

Flower Bldg.,
 Watertown, N. Y.

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REPORTS

GEORGE F. HARDY

M. AM. SOC. C. E., M. AM. SOC. M. E., M. ENG. INST. CAN.
Mill Architect and Consulting Engineer

Langdon Building, 309 Broadway, New York

SPECIALTY: Paper, Pulp and Fibre Mills, Water Power Develop-
 ments, Steam Power Plants, Plans and Specifications
 Evaluations, Reports, Consultation

Cable Address "Hardistock," A B C 5th Edition, Bedford, McNeill.
 Western Union—Bentley's.

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FOREST ENGINEERS

527 Fifth Avenue

New York, N. Y.

**J. H. WALLACE
 & COMPANY**
 TEMPLE COURT BUILDING
 NEW YORK CITY U.S.A.
 CABLES TRIPLEX N.Y.

**PULP
 PAPER
 AND
 POWER
 PLANTS**

**ENGINEERS
 & CHEMISTS**
 INDUSTRIAL DESIGN
 PLANT IMPROVEMENT
 LABORATORY TESTS

J. O. Ross Engineering Corp.

30 E. 42nd St.

CHICAGO NEW YORK CITY BOSTON

VAPOR ABSORPTION SYSTEMS

ATLANTA BALTIMORE BOSTON CHICAGO CHARLOTTE, N. C. CLEVELAND DETROIT

MORSE CHAIN DRIVES

A POWER SAVER FOR POWER USERS

Morse Chain Co. Ithaca, N. Y.

HIGH SPEED SILENT RUNNING FLEXIBLE
 GEARING FOR POWER TRANSMISSION

Address Nearest Office

KANSAS CITY MINNEAPOLIS MONTREAL NEW YORK ST. LOUIS PITTSBURGH

THE BRADLEY SALES AGENCY

Is open to listings of Eastern Canadian Timberlands
 Hardwood and Freehold Pulpwood Lands are in active
 demand at present

205 St. James St., Montreal, P. Q.
 512 Bank of Montreal Bldg

Experience Counts

In Making

TIMBER ESTIMATES

JAMES W. SEWALL

Old Town,
 Maine

Forest Engineer

Davidson Bldg.,
 Washington, D. C.

Largest Cruising House in America

H. B. PRATHER & CO.

CONSULTING ENGINEERS

PAPER AND PULP MILLS

REPORTS, PLANS, ESTIMATES, SPECIFICATIONS, SURVEYS
 AND SUPERVISION OF CONSTRUCTION

KIRBY BLDG.

CLEVELAND, OHIO

SANFORD RILEY STOKER CO

WORCESTER MASS

Makers of

**RILEY
 STOKERS**

BOSTON

NEW YORK
 CINCINNATI

PHILADELPHIA
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"A type to meet every stoker need"



MURPHY IRON WORKS
 DETROIT MICH.

Makers of

**MURPHY
 FURNACES**

BUFFALO

CLEVELAND

DENVER

PITTSBURGH
 ST. PAUL

For Sale

2 Digesters

8' 10" x 25' high, almost
new

1 Otis Elevator

9' x 10' Platform, com-
plete

Lot of Steel and Wooden Tanks

Horizontal and vertical all sizes

NATIONAL WRECKING CO.

P. O. Box 597, Penns Grove, N. J.

PULP AND PAPER OF EVERY DESCRIPTION HUDSON TRADING COMPANY

300 Madison Avenue
NEW YORK

ESTABLISHED 1888

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Paper Mill Supplies

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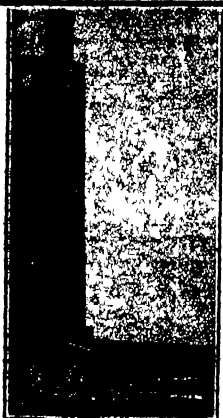
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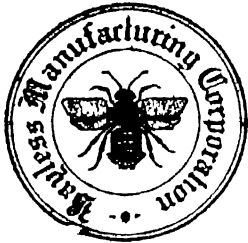
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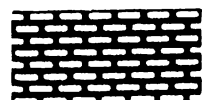
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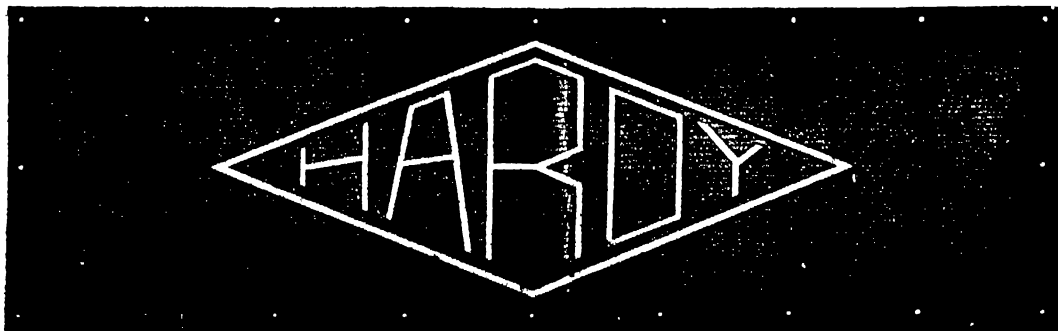
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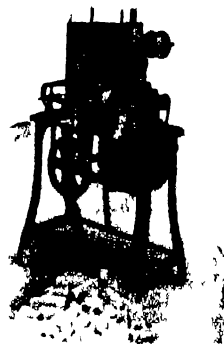
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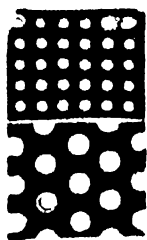
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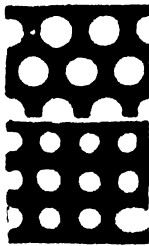
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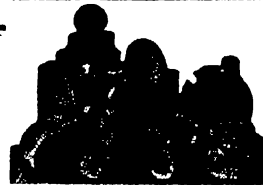
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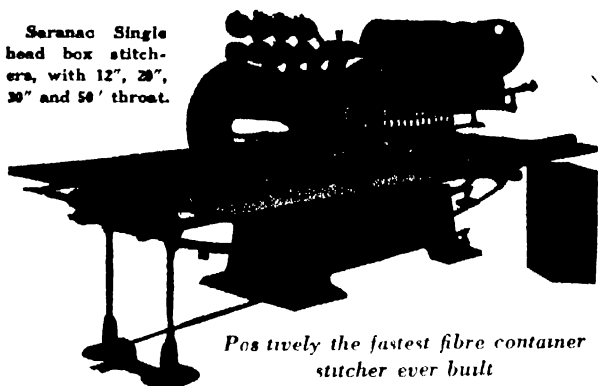
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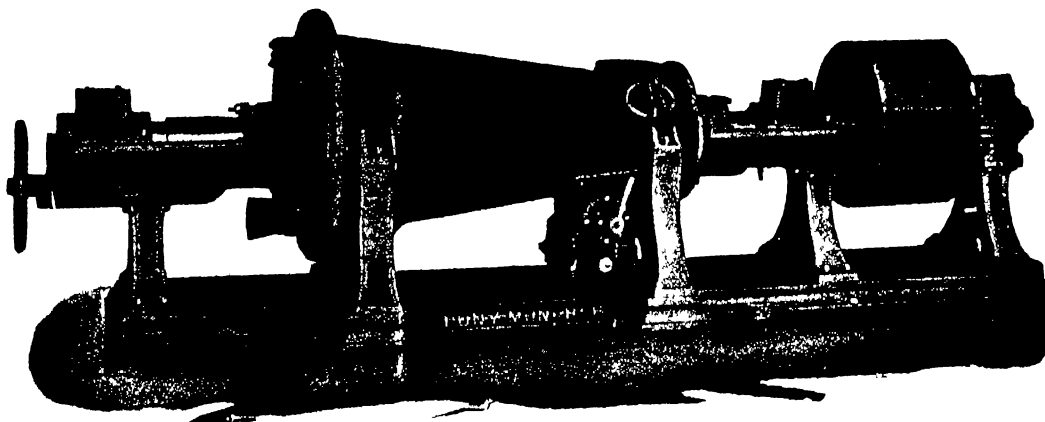
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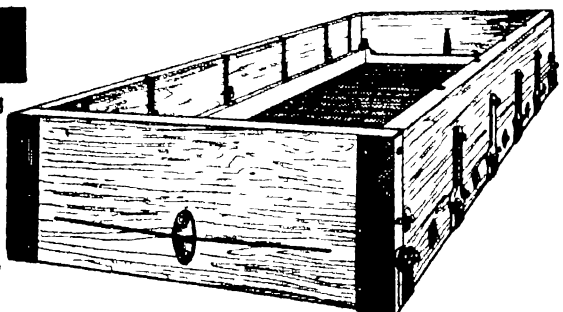
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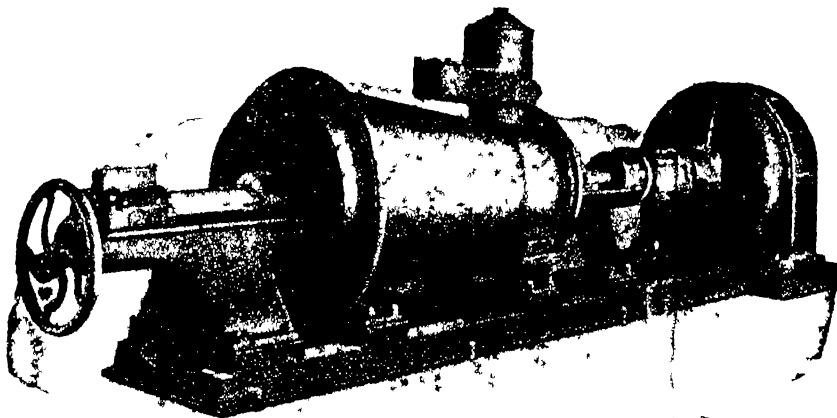
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